

# Marine Corps Gazette

July 1952

thirty cents



*"..by the dawn's early light"*

# Marine Corps Gazette

JULY 1952

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**Opinions expressed in the Marine Corps GAZETTE do not necessarily reflect the attitude of the Navy Department nor that of Headquarters, United States Marine Corps.**

**THIS MONTH'S COVER:** The closing words of the Declaration of Independence best illustrate PFC Kokinos' cover: "... with a firm reliance on the protection of Divine Providence, we mutually pledge to each other our Lives, our Fortunes, and our sacred Honor."

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## MARINE CORPS GAZETTE

Professional Magazine for the United States Marines  
JOURNAL OF THE MARINE CORPS ASSOCIATION  
Offices: Box 106, Marine Corps Schools, Quantico, Virginia  
Telephone: Extension 4780 or 6738

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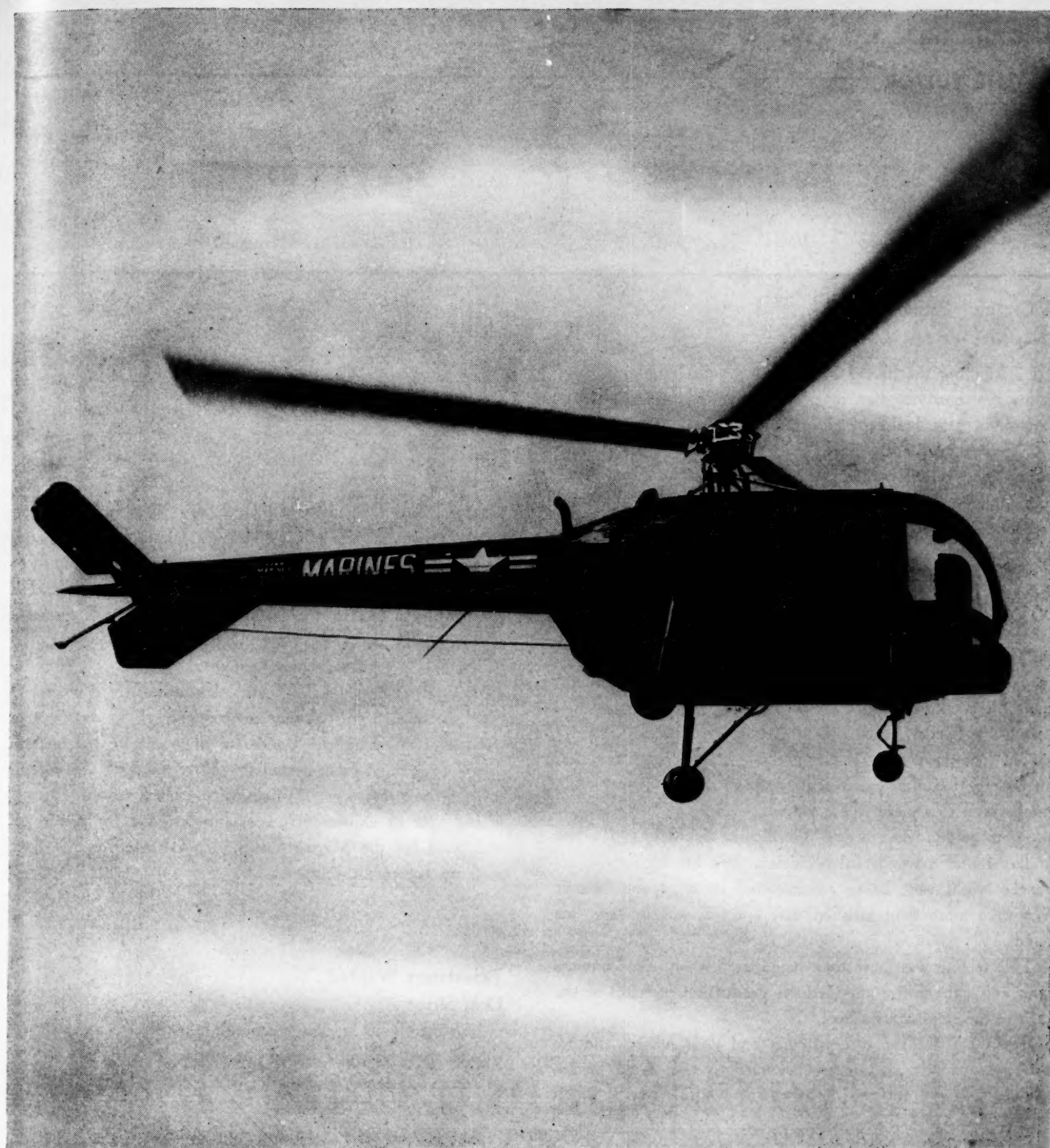
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**THIS MONTH AND NEXT:** In this issue LtCol Oppenheimer saddles up and advances his arguments for the use of quadrupeds in military operations, page 46. 1stLt Reavis' article on the transport helicopter points up new concepts to the difficult problem of logistics, and Capt Glenn makes a plea for up-to-the-minute information in *Grapevine for Pilots*. In the August issue LtCol Cereghino's article, *Volunteer Recruiting is the Answer*, gives the reader an insight into Marine Corps policy of volunteer service, and LtCol W. M. Miller finds another supporting arm in *LVTAs as Field Artillery*. The Korean series continues with Marine air covering the breakout from the Chosin Reservoir.

**VOLUME 36, NUMBER 7.** Copyright 1952 by the Marine Corps Association, Box 106, Marine Corps Schools, Quantico, Va. and published monthly. Entered as second class matter at the post office at Quantico, Va., under the act of March 3, 1879. Single copy, 30 cents; subscription rate, \$3.00 a year. Subscriptions of all members or honorably discharged former members of the Armed Forces include membership in the Marine Corps Association. Articles, photographs, book reviews, and letters of professional interest are invited. If accepted, these are paid for at prevailing space rates. Material may not be reproduced without written permission.



**New Marine Jack-of-all-aircraft**—Latest addition to the helicopter fleet of the U. S. Marine Corps is the Sikorsky HO5S, now being delivered in substantial quantities.

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TO THE EDITOR

# Message Center

## A Grateful Father . . .

DEAR SIR:

I am taking the liberty of answering your letter addressed to my son, notifying him that his subscription to the MARINE CORPS GAZETTE had expired.

The past 12 months have gone so swiftly. It seems only weeks since we, his parents, with mixed emotions watched the train pull out of the dismal train station at midnight bound for boot camp at Parris Island. Then, the happy day—after 10 weeks we saw our son graduate as a PFC. We stayed at the Hostess House on the base for two days. Our first introduction to the officers and men left a lasting impression. Except for the old "Halls of Ivy" and the leisurely atmosphere, we thought that we were back on the campus of Penn State. Maj Barrett, the CO, was our opinion of what a representative of the Marine Corps should be.

We left Parris Island with the feeling that every American should visit the training camp of the world's best soldiers. As an average befuddled and slightly bewildered civilian, I had finally been to a place where everyone seemed to know exactly where to go and what to do. We felt like sick people who had at last found a wonderful physician. We knew that the ills of the world were being administered by a capable doctor. We were more than satisfied that our son was in very fine hands.

This feeling was more than heightened when, some months later at Quantico, we attended the graduation exercises of the men in the small-arms school.

Again we met the enlisted men and their officers and we were very proud that our boy belonged to such a fine organization. We remembered the words of Maj Barrett at Parris Island when he said:

"Send us a good boy, and we will give you a better man."

Each month the GAZETTE pays five dollars for each letter printed. These pages are intended for comments and corrections on past articles and as a discussion center for pet theories, battle lessons, training expedients, and what have you. Correspondents are asked to keep their communications limited to 200 words or less. Signatures will be withheld if requested; however, the GAZETTE requires that the name and address of the sender accompany the letter as an evidence of good faith.

I thought at the time what a wonderful slogan for the Marine Corps that line would be.

In the meantime we looked forward to each copy of the GAZETTE, to which our son had subscribed, mailed to us here on Brigantine Island.

No copy of *Time* or *Fortune*, or any other magazines that come into our home, was more eagerly awaited or more avidly read. It supplied the missing link between nebulous news and radio guesswork and honest-to-God facts. Give the American people the facts, and they will know what to do. What a pity your magazine cannot be bought on all the newsstands of America. At a time like this, when there is a crying need for truth and facts about world conditions, your GAZETTE is the only source of such information that I have found. And believe me, I am a voracious reader.

I am enclosing my check and subscription card so that I may continue to receive your magazine.

Many thanks for the wonderful photographs and articles. Just a suggestion from a civilian—Why not have the recruiting sergeants try to get a subscription from a recruit's parents at the time of enlistment? It would be good for the people and good for the Marine Corps. I think there is no better medium for public relations.

FRANK SWITKIN,  
Brigantine, N. J.

## Translators Wanted . . .

Dear Sir:

Not merely to be disagreeable, but to present the practical side of the question, I would like to take exception to a point or two in Mr James E. Rudasics' article in the March GAZETTE, *Readin', Ritin' and Regiments*.

As adjutant of the 3d Bn, 3d Marines, I have composed some 75 to 100 battalion orders in the past four months. We are on battalion administration, so about 50 per cent of our directives are for the consumption of the individual Marines, with the other half aimed toward subordinate commanders.

I do not believe that any officer who prepares or authorizes written material "deliberately attempts to confuse" with what he has written.

Military writings, just as the publications and documents of other professions, employ certain technical language peculiar and necessary to the military. I contend that most of this so-called gobbledygook is precise and technical writing intended for officers at different echelons of command. These officers, in turn, are expected to insure that the men of their





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commands are informed of the contents and effect of the original directive. This is where the enlisted consumer enters the picture. If the subordinate commander or his staff officers allow a mere repetition of a directive to be published to their men, they are discharging the letter of their responsibilities, but not the spirit.

Mr. Rudasics' proposed substitution of the word "declare" for "promulgate" would deprive the commander of a legal word meaning, "to make into law," and give him in return one with a far different meaning when applied to law.

His figures on reading levels, comprehension, etc., I cannot dispute. My views on this subject will not fit into 200 words, but I think that these short samples will serve to set forth my contention that the officer who makes a decision and issues an order should not compromise his military language, but may rest assured that the officer nearest the men who carry out his orders will comprehend and see that the orders are actually carried out in both the letter and the spirit.

W. E. CLEMENS,  
2dLt, USMC

ED: Herewith an excerpt from FM 100-5. (Italics from the manual, not our own.)

*"Orders must be clear and explicit and as brief as is consistent with clarity. Short sentences are easily understood. Clarity is more important than technique."*

## NCO Promotions . . .

Dear Sir:

If *You Weren't Selected* by Maj Swanson in your February issue was good reading. Naturally it was of prime interest to those officers who were not selected.

I, for one, would appreciate such an article on senior NCO promotions. We know, true enough, that there is such a thing as a promotion board, and that is about all. Therefore, take the case of an NCO who has conscientiously performed his assigned duties, has never known of his having received an unsatisfactory fitness report, has held his present rank for well over the required period of time, and who naturally has passed the required GMST and TT. What can be said that may justify his not having been promoted?

The senior NCOs have been a part of the Marine Corps long enough to know that everyone cannot be promoted on every promotion list, but it is my contention that more information as to the operation of the promotion boards should be available. If for no other reason, the senior NCOs are continuously being offered the opportunity to apply—if qualified—for officer status, to wit the recent promotion of numerous second lieutenants from enlisted status, and the still current warrant officer program under Marine Corps Memo 120-51. These men so promoted will some day need to attempt an explanation to a deserving staff or technical sergeant why he was not promoted, when all the "local" dope seems to indicate a promotion in his case.

I'm sure that such information is not classified in any re-

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spect, and if it is, I don't see why it is. Why not lay it on the line?

It is further my opinion that an article written straight from the horse's mouth, as Maj Swanson's article was written, would best fill the gap.

Our individual problems are now and always will be pertinent, of course. What I desire to know however is the general over-all procedure for promotions in the upper NCO grades.

JOHN DOE,  
TSgt, USMC

## Required Reading . . .



Dear Sir:

Your courtesy in forwarding five copies of the January issue of the MARINE CORPS GAZETTE to our office is very much appreciated. This shop of Strategic Plans can gain much from the article *Background For Russian Action* written by Don Hittle. This article is required reading. It will, I think, enable us to attack our Communist problems with greater insight than we otherwise might have had.

Thanks very much for the copies of the magazines.

ARLEIGH A. BURKE,  
RAdm, USN

Dear Sir:

May I commend the GAZETTE for having published such an article as *Background for Russian Action* in your January issue? This article should be read by all officers, and in particular those officers assigned to duties in high-level planning sections who are probably running in circles trying to understand the activities of the Russian Bear.

In my personal opinion articles of this sort do much to maintain the GAZETTE's high standards. Keep them coming.

W. F. COLEMAN,  
Col, USMC

## Sweat of the Brow . . .

Dear Sir:

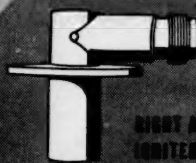
The old Chinese had a proverb that went something like this, "The more you sweat in peace, the less you bleed in war." In short . . . PREPARATION. In things military the men bearing the profession of arms have been most preparatory, but in things political have they been so? The pro-

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fessional soldier will tell you that he is a fighter, not a debater, but where does politics end and war begin? The Germans postulated long before the advent of the third Reich that war is but continuation of politics in a different manifestation. If we can accept this thesis we must then accept the principle of being prepared not only in matters military, but political, economical, and social. Many voices will immediately be raised sounding the cry that that facet of world problems, although quite apropos to the question, is for the diplomat; not the soldier. Is it his job, solely?

More than once we have won the war only to lose the peace . . . if my effigy won't be burned at dawn for uttering such a trite statement in these days of hindsight . . . and one of the main causes of this is that the diplomat is not aware of things military and the fighter not aware of things political.

Such a fine article as LtCol J. D. Hittle's (GAZETTE, Jan 52) represents the peace-time sweat of the brow to prevent political bleeding in time of war—that is to say if knowledge of such information were used to best advantage.

This article reiterates the thesis (if I may be allowed that interpretation) "heard 'round the world today" that the real Communist threat lies in Asia. Perhaps before this letter appears in Message Center (if it ever does) Indo-China will have become the world's and Asia's second Korea.

Quoting Lord Palmerston about the Russian technique of expansion Col Hittle might have also quoted Teddy Roosevelt

when he said, "Speak softly and carry a big stick." The latter philosophy is identical to, but paraphrased differently from the famous Prime Minister's conclusion on Russian expansion. If this conclusion of meeting force with force were more overtly applied today we might have the containment which seems to be the anathema to Russian expansion. Today in the arena (arena is a more correct term than hall as it connotes animal pitted against man rather than statesman against statesman) of public world discussion the Communists have used our own parliamentary tools against us (with perhaps the recent exception of the signing of the Japanese peace treaty) but less discussion and more action would be the type of stick we should carry. Whether we like it or not we are the leadership of the free world today. We must come up with a policy—political and if need be military—to lead the free world and confront the Communists on their every front.

Let's have more dissertations as Col Hittle's. The sweat of the brow in peace time in learning and the application of such knowledge will, in war time, prevent political bleeding and the subsequent mess we're now in.

KARL D. MORRISON,  
1stLt, USMC

#### Objection Overruled . . .



Dear Sir:

This is in answer to Lt Tubley's comment on my article, *A Marine Troop Leader's Handbook*, in the July, 1951 issue of the GAZETTE.

In my year of service as a platoon leader with the 2d Div, I have learned through experience that a platoon leader's handbook would have been of invaluable assistance to me.

The first thing an enlisted man wants to know about his platoon leader is whether or not he knows his business. The great variety of subjects covered in the six months Basic School syllabus makes it practically impossible for a lieutenant to retain complete knowledge of any one sub-course, such as the 90 hours of machine gun training. Faced with the prospect of lecturing about MGs to a platoon in which the total MG experience of his section leaders slightly exceeds the platoon commander's age, 90 hours dwindles to an insignificant figure. There is a high probability that unless the platoon leader has an easily accessible source of information he will be considerably outclassed by the knowledge of his NCOs, and may soon find himself sitting back while they run the platoon. The



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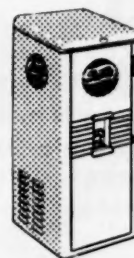
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only solution is considerable delving into various FM's and TM's. These are often unsatisfactory because they are outmoded, contradictory, and in the case of such matters as the selection of MG positions, non-existent. In addition, in the case of TM's they are hard to get hold of for any length of time.

A consolidation of this tactical and technical data would, to my mind, result in a great improvement in instruction.

In his letter, Lt Tubley writes, "... with the modernization and, to use a loose phrase, mechanization of the Corps, the new arrival to line duty finds his many problems amply cared for by such items as the battalion training schedules, SOPs, operation orders, and preponderance of S-3 memoranda, training directives, and the like." As a platoon leader, the only problem of mine that was taken care of by a battalion training schedule was the problem of what to teach my platoon. I agree that many training schedules are too restrictive in the methods and the places assigned to teach a given subject, but no training schedule ever gave me the information I was to pass on to my platoon.

Such a book as I suggest, with the table of contents outlined, would do no more than to give the platoon leader in one box all the tools he needs to make an interesting lecture. It would not tell a platoon leader how the information should be taught.

Lt Tubley also writes that a troop leader's handbook "might well prove the final obstacle to the development of initiative, originality, and ingenuity so vital to leadership in a junior officer." I cannot see how this can be the case. Platoon tactics is one of the largest fields open to a platoon leader in which he may exercise his initiative. One of the most important lessons taught about tactics at Basic School is that every tactic depends on the terrain and the situation. This is a statement that belongs in any handbook on platoon tactics, yet it in no way restricts the initiative of the platoon leader. On the contrary, it would seem to me to increase it.

Therefore, I should say that Lt Tubley's objection to this handbook is based on the fallacy that printed information necessarily restricts a leader's initiative.

NOLAN LUSHINGTON,  
2dLt, USMC

### Give Us A Chance . . .

DEAR SIR:

In reference to the article, *Don't Sell Experience Short*, by SSgt James G. Long which appeared in the March GAZETTE, I feel the sergeant has some good dope. Perhaps the main reason for my opinion is due to the fact I am one of those people mentioned in the article.

I volunteered for service with the Corps immediately out of high school in 1943. At that time it was volunteer for a branch of service or be drafted. After almost three years' active duty with a little combat time thrown in, the war ended. I was honorably discharged and enlisted in the inactive reserve with the grade of sergeant. I got out with the intentions of

getting a college degree so I could apply for a commission in the Corps. Finding it impossible to enter college at that time due to the overflow of college enrollments, I decided to work for a few years. I finally got into school and after a couple of years the Korean emergency broke and the immediate activation of all Marine reserves followed. Approximately a month and a half after my recall, an order came out that any reserve in college was automatically deferred, but some of us were already on active duty. As for myself, I didn't complain or try any phoney method of release because I have a positive attitude for the Corps and wanted to serve to the best of my ability. Being assigned to recruiting duty and going into it "cold," I tried in every way to be faithful to the Corps.

However, my problem is this. By the time I finish school, due to this last recall, I will be a year and a half too old for the present requirements. But what about men like myself who were recalled out of college before the deferrment rule came out? We would like a try at the commissioned ranks, also, just as the men in college who are in the PLC and OCC programs. I firmly believe with SSgt Long that we should also be given a chance as other men who have never been on active duty and were given the outright privilege to remain in college. Can some program be set up for men, such as myself, who helped as much as possible the Marine Corps make its famous heroic history during WW II?

ROBERT E. MAYHEW,  
SSgt, USMCR

### Too Old at 27 . . .



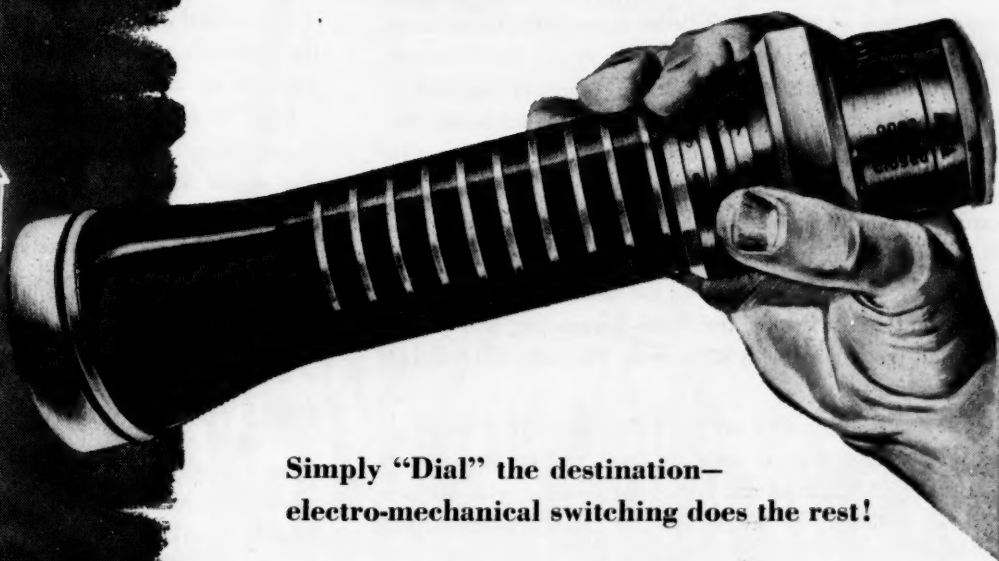
Dear Sir:

At last someone has presented an analysis of the shortcomings in the officer procurement program. SSgt Long's article in the March GAZETTE seems to have hit the nail dead center. In a few paragraphs, Long has summed up the difficulties and frustrations of not a few members of the enlisted ranks of the Marine Corps.

This article hits close to home. I happen to be one of the thousands, recently recalled from the reserve ranks, who has found that because of a technicality (I am an old man of 27) I am not qualified to apply for commission. Perhaps I am the corporal described in Long's article, who after three years of Marine duty attended college for four years, graduated and returned to the Marines still a corporal and destined to

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stay one for some time. But there are others—in many ways better qualified—who have run into this brick wall; if not because of age then because of a sub-par GCT score.

I'm a public information man. I believe in the uniform I wear, the traditions it stands for—and my job. But I'm forced to cringe when a civilian friend asks me to explain why I haven't applied for officer training.

SSgt Long's suggestions for a solution seem to make sense.

DONALD S. KNIGHT,  
Cpl, USMCR

### First Flag to Fly . . .

Dear Sir:

On page 19 of the September 1951 GAZETTE, the caption for the picture of Seoul states, "Also shown is the Government Provincial House where 1st Marines raised the American flag. . . ." The 5th Marines had an American flag and its battalion flag fluttering in the breeze at the capitol before anyone from the 1st Marines neared the place.

My platoon, the 1st Plat, G Co of 3/5, got into the capitol yard first, removed the North Korean flag from the pole, and hoisted the American Flag and our battalion flag.

In the meantime, I Co reached the second pole in the yard, but when the men lowered the North Korean flag, they yanked down all the halyard with it, so never were able to raise their battalion flag.

The 1st Marines may say what they like, but I believe it would symbolize more to me if an invader raised his flag over my capitol in Washington, than if he raised it over his own embassy building. It amazes me that the 1st Marines' flag raising is considered official, as per *The Capture of Seoul*.

ROGER W. PEARD,  
1stLt, USMC

### Correction . . .

Dear Sir:

In order to keep the record straight and to "give credit where credit is due," I'd like to advise that in the article *The Hungnam Evacuation* (December GAZETTE), you refer on page 22 to Maj Bernard B. Shutt when it should be Maj Richard W. Schutt.

Maj Schutt was on temporary duty with the 1st Mar Div from Hqs, FMF Pac to assist in this operation. He received a Bronze Star for his most valiant accomplishments. Maj Schutt is presently embarkation officer for FMF, Pac.

PETER I. OLSEN,  
LtCol, USMC

ED: Our apologies to Maj Richard W. Schutt who was in charge of an operations section composed of representatives of all the major units of X Corps.

### Well Done . . .

Dear Sir:

A "well done" to LtCol James A. Pounds, III, for his impressive editorship of the GAZETTE. That his work has been outstanding is reflected in the amazing climb the GAZETTE has made up the circulation ladder, a neat record of 58,000 copies, which translated into readers could easily total several hundred thousand. This leadership in readership is something the Marine Corps can look upon with pride for it puts the GAZETTE far ahead of all other publications of its type.

FRANK MALLEN,  
LtCol, USMCR

### Not Draft Dodgers . . .

Dear Sir:

So *Nobody Wants to be a Fighting Man!* Perhaps there is a good deal of truth in the article by Lt Ryan, but I believe the honorable professor of English has gone a bit too far in some of his criticisms.

First, he seeks to give the impression that the young men in our colleges and universities are acting no other part than that of the deliberate draft dodger. He does not bring out the fact that a great number of these students are not enrolled in any reserve officers training program, that they are not enrolled in scientific or medical courses, that a good many of these students were pursuing a course of study long before our country had a dire need for a "fighting man." Furthermore, if Lt Ryan would establish a closer relationship with his students I believe he would find that most of them realize they shall spend a period of time in the service upon completion of their studies. Also, as I assume Lt Ryan to be an intelligent man, I believe even he will recognize the proven fact that an educated individual makes a better qualified Marine whether he be a "fighting man" or among the non-combatants.

Secondly, Lt Ryan seems to be bent in the direction of discrediting the supply sections, those who issue "shoes and trousers and mess kits," and those who have been trained for any sort of a specialized job.

Lt Ryan, let me post this question: Would you not be the first and the loudest to complain if you didn't have a pair of boondockers to wear when you were leading a vital attack, or would you not raise more than a mild protest if your men did not have the proper type and the proper amount of individual equipment when and where they needed it?

I don't doubt that good intentions were in mind when this most interesting article was written, and certainly there is need for a good deal of reform in the size and apportionment of our non-combat troops, but the impression given is that we have need for none other than the infantryman in this war. This is the 20th Century, we could no more fight a war today without our supply sections than Andrew Jackson could have defeated the British at New Orleans without his volunteer militiamen.

JAMES E. BERNER,  
Sgt, USMCR

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## Notes on Our Authors



When the helicopters of HMR-161 made their history-making troop lift in Korea on 20 September 1951, 1stLt William A. Reavis was executive officer of the Shore Party platoon assigned to the squadron for the operation. From that date to the time of this writing he has worked constantly with helicopters in Korea, and in *The Transport Helicopter*, on page 54, gives our readers much valuable information on this new version of three-dimensional warfare. Lt Reavis is a graduate of the Naval Academy (1947), and before going to Korea served with the 2d Mar Div for two years and attended the Basic Engineer Officers Course at Fort Belvoir.

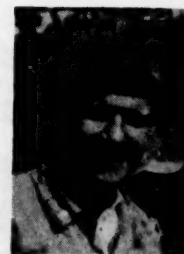
Charles Mathieu, Jr., obtained the material for *Guided Missiles Over New York*, page 26, while doing research in his capacity as account executive for Sidney Wain, Inc., which does public relations work for industrial firms. Mr. Mathieu holds the rank of major in the Marine Corps Reserve and served during WW II with the 2d MAW in the Solomons and later with OSS in Burma and India. Before the war he majored in journalism at Columbia and was a reporter for International News Service.



1stLt Donald V. McCloskey undoubtedly had many afternoons in Korea similar to the one he describes in *An Afternoon*, on page 30. Lt McCloskey was with the 2d Bn, 5th Marines in the Pusan perimeter, was hit after he had been in action for about a month, and spent the next eight months in hospitals recovering from his wounds. In addition to the Purple Heart, he wears the Silver Star for gallantry in action. Lt McCloskey enlisted in the Marine Corps in 1943, did a tour of sea duty, studied at the University of Southern California under the V-12 program, and in 1948 was commissioned in the Marine Corps. At present the lieutenant is Officer Procurement Officer for the Pacific Northwest, with offices in Portland, Oregon.



1stLt John E. Nolan's down-to-earth analyzation of *The 60mm Mortars in Korea*, page 34, stems from experience. While in Korea he had a chance to consider them from two angles — as a section leader commanding the mortars, and later as a rifle platoon commander using their fire to support his platoon. Lt Nolan was appointed to the Naval Academy in 1946, and in 1950 received a commission in the Marine Corps. From May 1951 to January 1952 he served in Korea with the 1st Bn, 5th Marines and earned the Silver Star, Bronze Star, and Purple Heart. He is stationed at MB, Naval Activities, Washington, D. C.



Maj Reginald Hargreaves, M. C. (British Service) author and illustrator of *The Eagle and the Dove*, page 38, was educated for the Army, and in the 1914-18 war served with line troops and on the General Staff in France and Gallipoli. Severely wounded in 1917, he retired after the war on medical grounds, but returned to uniform for the 1939-45 war. His articles on military history, social history, and military comment run into many scores, and there is a long list of books to his name, of which the latest to be published in England is entitled *This Happy Breed*.

Kenneth W. Condit (co-author of *1st MAW at the Chosin Reservoir*, page 18) gives Princeton, N. J. as his home town, and Princeton University as his alma mater. He was graduated from Princeton in 1942 and returned for the period 1946-1949 to get his masters degree. For the next two years, as a research assistant with Headquarters, Marine Corps, he gathered data for *U. S. Marines and Amphibious War*, by Isely and Crowl, and then began his current research work on the Korean war.

Capt John H. Glenn, Jr. outlines a plan for keeping squadron pilots abreast of new ideas in *Grapevine for Pilots*, page 16. Capt Glenn flew with VMF-155 during the Marshalls campaign and after the war flew for 28 months in Peiping, China and on Guam. After that, he instructed at Corpus Christi. The captain wears the DFC with one cluster and the Air Medal with nine clusters, and is now at MCS, Quantico.



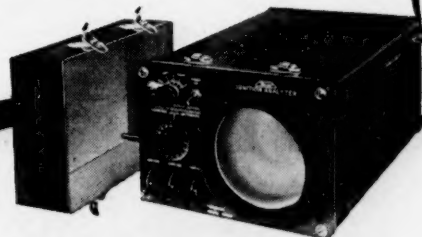


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• HOW DOES THIS SQUADRON FLY ITS DEFENSIVE formations? How does the squadron fly its gunnery flights? How does the squadron fly its close-air support? Pilots reporting in to squadrons at Quantico, Cherry Point, El Toro, and in Korea are asking these questions before they've been aboard long enough to unpack their Valpacks.

And yet, these same pilots have been flying defensive formations, gunnery flights, and close air support in the Marine Corps from the time they left Pensacola. Why all the questions?

The answer can be found in two conditions that exist in Marine aviation today. First, individual COs, execs, or operations officers often set policies or methods strictly in the light of their own past experiences, which is the natural thing to do. A present fighter operations officer

whose main experience was in dive bombers at Zamboanga will undoubtedly have opinions far afield from another pilot whose combat started in the wild melees during the battles for Midway or Guadalcanal. "Now, we did it this way—" may not be the best way.

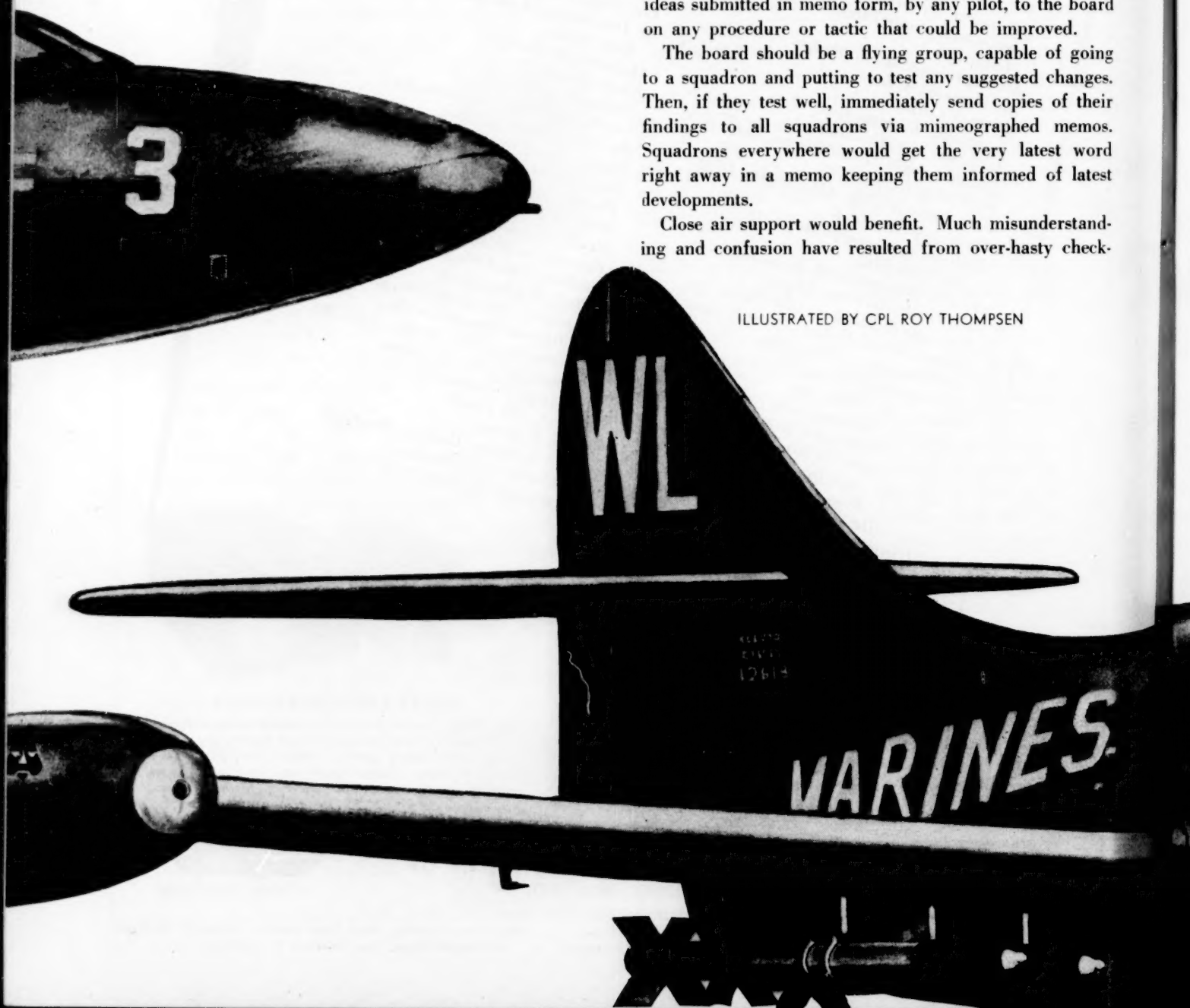
And secondly, there are not enough sources of information readily available to units on which to base their policies, especially since Marine operations have scattered squadrons halfway around the world with no indications from the present international situation that further scattering may not be necessary at any time.

A solution? Establish a Tactical Air Board of about six members, not just any six, but six of the best and most competent pilots available—pilots with recent squadron experience. They would act as a clearing house for new ideas. Not the formal presentations such as proposed changes to current doctrine publications, but new ideas submitted in memo form, by any pilot, to the board on any procedure or tactic that could be improved.

The board should be a flying group, capable of going to a squadron and putting to test any suggested changes. Then, if they test well, immediately send copies of their findings to all squadrons via mimeographed memos. Squadrons everywhere would get the very latest word right away in a memo keeping them informed of latest developments.

Close air support would benefit. Much misunderstanding and confusion have resulted from over-hasty check-

ILLUSTRATED BY CPL ROY THOMPSEN



# GRAPEVINE FOR PILOTS

*By Capt John H. Glenn, Jr.*

outs. Changes and improvements in both techniques and organization of close air support units in the air and on the ground have been very rapid. The Korean incident has provided many lessons, according to returned pilots. A Tactical Air Board could do much to aid, standardize, and disseminate valuable information.

The advent of jets has presaged one of the fastest developing periods in aviation history. Many old-standby procedures have been junked and new ones substituted because of the new operating characteristics. Tactics have not crystallized. Almost daily new suggestions are made as substitute measures, methods of using the newer and faster equipment to best advantage. The board could keep all squadrons informed.

The Tactical Air Board could do just what an abbreviation of its name (TAB) might indicate. It could keep

tab on anything which might further the operating efficiency of Marine squadrons. Anyone could present ideas which the TAB could investigate, then let all squadrons in on the results. Reactivation of reserve squadrons makes the problem even more important. Keeping up with developments has not been easy for many of us in the regular Marine Corps. There must also be a large percentage of reserve pilots who could use some "hot dope" sessions a TAB could provide.

A TAB, functioning as here briefly outlined, could fill a present need in Marine aviation. Keeping Sam on a Mediterranean cruise informed of the latest developments made by Pete in Korea, may enable Sam to be a much better pilot if trouble brews in his area.

Most pilots are fairly intelligent people. Give them the latest information and they'll see that it's put to use.

USMC





# MARINE AIR AT THE CHOSIN RESERVOIR



❧ WINTER COMES EARLY IN NORTH KOREA. AS EARLY as November, icy blasts with a knife-like edge sweep over the mountains and through the valleys. Temperatures of 20 below zero are frequent and deep snows isolate the villages from the rest of the world. But 1950 was a year apart, and November saw hundreds of planes prowling over, under, and through the overcast while thousands of men moved over the land.

United Nations forces, after inflicting a resounding defeat upon the Communist North Korean army in the south, were marching toward the Manchurian border and what they hoped would be the finale of an extraordinarily bitter war. But they were doomed to disappointment, for Red China had already decided to win back the gauntlet wrested from the North Koreans. Even as UN soldiers approached the Yalu River, thousands upon thousands of Red China's best troops were stealthily crossing the stream. Moving by night and making use of woods, houses, and excellent camouflage, small units infiltrated rather than maneuvered into position to strike death blows against the Eighth Army and X Corps.

They struck hard, but their onslaught was far from a death blow. Much of the credit for blunting the Communist attack goes to Marine air power. This was the supreme test for Marine doctrines of close air support, for the ferocity of the enemy assault and the hazards of winter operations in mountain country required not only maximum effort but constant improvisation.

By the end of October, 1950 the North Korean military effort was on the verge of collapse. Following the Inchon landing and capture of Seoul, enemy forces had retreated north of the 38th parallel, leaving all South Korea in the hands of the UN forces. Units of the 1st Marine Aircraft Wing had served during the Inchon-Seoul campaign as the tactical air command of the U. S. X Corps, functioning under the direct operational control of the corps commander.\*

Even before the Inchon-Seoul operation was concluded, the UN command was preparing further operations to complete the destruction of enemy forces and end the war. The concept for the new operations called for a pincer movement directed at the North Korean capital, Pyongyang. One arm of the pincer, composed of the Eighth Army, was to advance directly north from Seoul. The other arm, made up of X Corps, would make an amphibious assault at the east coast port of Wonsan, then advance west across the peninsula to join up with Eighth Army at Pyongyang.

The X Corps commander, MajGen Edward Almond, wished to retain the 1st Marine Aircraft Wing as tactical air for his corps. This was permitted but with one modification of the previous relationship. Under a ruling of the

In cooperation with the Historical Division, Headquarters, U. S. Marine Corps, the GAZETTE herewith presents another in a series of official accounts dealing with Marine operations in Korea. Prepared by writers and researchers of the Historical Division, these articles are based on available records and reports from units in Korea. Also to be treated in this series:

1st MAW in the Breakout from the Reservoir  
1st Engineers in Korea  
1st Tanks in Korea

Publication is scheduled for consecutive monthly issues. Admittedly it is too soon to write a definitive history of Marine fighting in Korea. Not only are enemy sources lacking, but even Marine and Army records are still incomplete. Articles of the length to be used in the GAZETTE, moreover, do not allow space for more than an outline of operations which will ultimately be given the detailed treatment of a monograph.

But timeliness is also an end to be sought, and these preliminary narratives are based on Marine and Army reports received up to this time. These articles are presented in the hope that GAZETTE readers will feel free to add to the incomplete record. This is an invitation, therefore, for you to supplement the existing record. Send your comments and criticisms, as well as any other information you can make available, to the Historical Division, Headquarters, U. S. Marine Corps, Washington 25, D. C.

theater commander, all air operations north of the 38th parallel would be under operational control of 5th Air Force. Thus the 1st MAW, while its primary mission was with X Corps, was subject to orders of 5th AF and could be diverted to other missions.

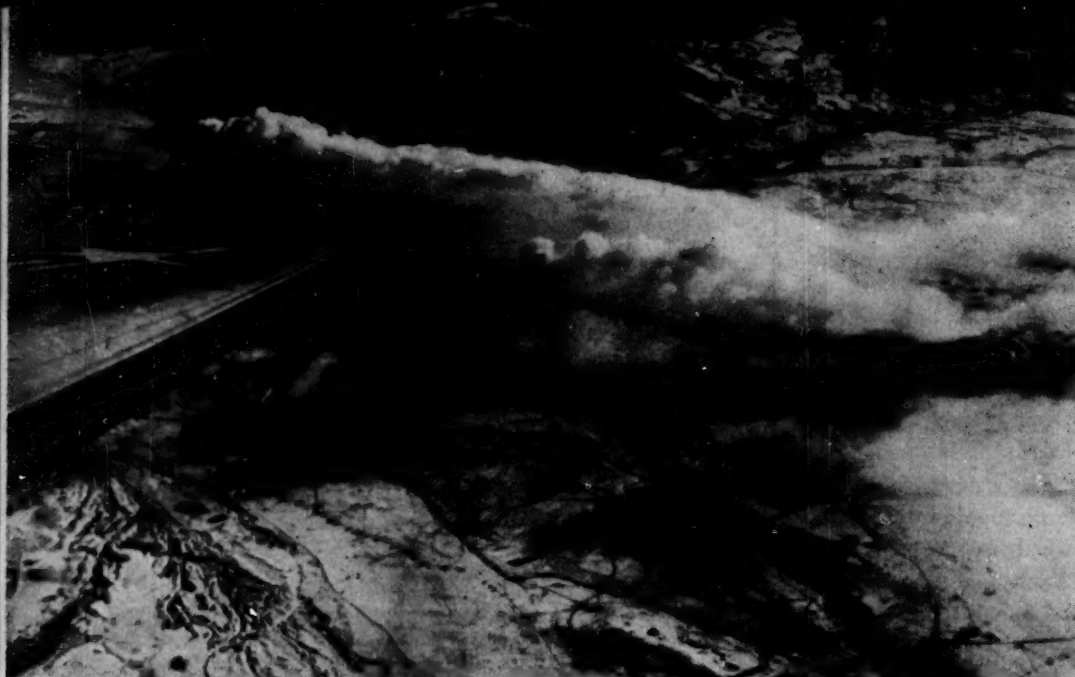
Air planning was predicated on an operation similar to Inchon-Seoul—amphibious assault followed by capture and rapid exploitation of an airfield. In the first phase, two Marine fighter squadrons would participate. VMFs-214 and 323, aboard CVEs *Sicily* and *Badoeng Strait*, were assigned the air support role in the naval attack force. As soon as the airfield at Wonsan was seized, an aircraft group, MAG-12, was to be landed. Its headquarters and service squadrons and heavy equipment were to be surface-lifted from Japan, while two of its fighter squadrons, VMF-312 and VMF(N)-513, were to come in by air. VMF(N)-542, the other fighter squadron of the group, remained at Kimpo. D-day was set for 20 October.

Before that date arrived, the rapidly changing situation required extensive modifications in the plan. On 11 October, I ROK Corps, advancing up the east coast, captured Wonsan. And eight days later Pyongyang fell to the Eighth Army. MajGen Field Harris, CG 1st MAW and TAC, X Corps, flew to Wonsan on the 13th, inspected the airfield and decided to begin operations at once. VMF-312 flew in from Kimpo the next day, and Far East Air Force Combat Cargo Command began bringing in aviation gasoline. Bombs and rockets were loaded on Corsairs of VMF(N)-513 and flown to Wonsan from Kimpo.

\*For this, see E. H. Giusti and K. W. Condit, *Marine Air at Inchon-Seoul*, MARINE CORPS GAZETTE, June 1952.

**By Kenneth W. Condit and Ernest H. Giusti**





**Terrain demanded the utmost in flying skill, courage, and imagination**

The plan was to support VMF-312 by airlift for three days, pending the opening of the port of Wonsan and the arrival of the surface echelon. Then additional squadrons would be flown in to operate from the Wonsan field. Owing to a miscalculation, the harbor was not cleared of mines until 26 October. For 12 days flight operations had to be supported entirely by airlift. A further complication was the arrival of VMF(N)-513 on 17 October, making two squadrons dependent on airlift for all supply.

By substituting human muscle for machines, flight operations were maintained. Fuel was pumped by hand from 55-gallon drums, rolled along the ground a distance of one mile from the dump to the flight line. The squadron ordnance sections, seriously hampered by lack of supporting service units, unloaded transports, assembled bombs and rockets, and loaded them on the planes. For the first two weeks the ordnance section of VMF-312 had only one jeep and eight bomb trailers to move all the ammunition. To the overworked ground crews, the refuelers, trucks, and machine shop trailers of Service Squadron 12, landed on 26 October, were a welcome sight.

Operations during this period consisted of armed reconnaissance sorties throughout the X Corps zone and support missions for I ROK Corps advancing towards Hamhung. VMF-312 attacked bodies of retreating North Korean troops attempting to escape the advancing UN forces. On 19 October, a VMF-312 flight attacked 500 enemy troops near Yangdok, killing about 100. A flight from the same squadron caught a body of 800 enemy on the road at Kansong on the 24th and attacked it, causing about 200 casualties. Night operations did not begin until 29 October, because there were no runway lights. Until that date, VMF(N)-513 flew day missions in conjunction with VMF-312. At sea, VMFs-214 and 323 maintained combat air patrols over the task force while

mine sweeping operations were in progress.

An effort was made during the first two days to comply with 5th AF procedures. These required that all strikes for a given day be submitted to 5th AF headquarters by 1800 the previous day, but the distance between 5th AF headquarters in Seoul and X Corps headquarters in Wonsan created communication difficulties which made it impossible to get the clearance for strikes in time. The difficulty was resolved by a conference between MajGen Partridge, CG

5th AF, and MajGen Harris. They agreed that Gen Harris would have a free hand to conduct air operations in the X Corps zone, provided he kept 5th AF informed.

The 1st Mar Div began landing at Wonsan on 26 October. By X Corps order, the Marines began to advance north towards Hamhung, the Chosin Reservoir, and ultimately the Manchurian border. Air operations were now directed towards supporting this advance, and on 2 to 6 November came the first calls from Marines for close air support. The 7th Marines, advancing north from Hamhung towards the Chosin Reservoir, encountered the 124th CCF Div near Sudong, a village a few miles south of the precipitous rise to the Koto-ri plateau.

Troop movements spotted by Marine pilots late in October revealed the presence of a sizable enemy force. On the 30th a four-plane flight from VMF-312 attacked some 500 troops believed to be CCF hiding in houses in Hagaru, and the next day 500 more enemy were hit 10 miles west of Oro-ri by the same squadron. On 1 and 2 November Marine pilots struck at dug-in Chinese north of the advancing 7th Marines. A division from VMF(N)-513 and another from VMF-312 flew these missions.

Planes of both squadrons went to work in earnest on the third, furnishing close support for the regiment which had been heavily attacked during the night. Delivery of these strikes was complicated by the fact that the regiment was out of radio range of the tactical air direction center at Wonsan and was unable to request planes. Forward air controllers (FAC) had to work with whatever planes flew over their positions. Before a flight left the area, its leader was requested to send more planes. In spite of this difficulty there was no shortage of air support.

At one point, the FAC of the 2d Bn, 7th Marines was in particularly serious trouble. His radio had been



knocked out by a stray bullet, and he was unable to communicate with the planes. Just before dark, a two-plane flight from VMF-312, on its way north on a reconnaissance mission, was contacted by the FAC of 2/7, who had finally managed to repair his radio. He pointed out to the pilots about 200 CCF troops digging in on a 100 ft. high ridge overlooking the battalion perimeter. On the first pass, the pilots made direct hits with 20mm shells. Then they came in again firing rockets and dropping 500-lb. bombs. As the Chinese broke from the ridge, many of them were hit by fire from the ground troops who advanced and took the ridge without difficulty.

For the next three days Marine pilots flew close support missions for the 7th Marines, as that regiment slugged ahead against heavy enemy resistance. The column rounded a bend in the road approaching Chinhung-ni and ran into four T-34 tanks. The four planes on station overhead were called in and attacked in a matter of seconds, destroying the second tank in column with direct rocket hits. Bazookas and recoilless 75mm rifles took care of the rest. By evening of 6 November the CCF 124th Div had been crushed, and the Marine advance toward the Chosin Reservoir continued practically unopposed. During the battle with this enemy division, Marine air flew a total of 148 close support sorties.

As the ground troops of X Corps advanced to the north, the air component of the corps was built up by flying in additional units of the 1st MAW. VMF-212 arrived at Wonsan on 3 November. Three days later MAG-33 was ordered to move from Japan to Yonpo Airfield in the Hamhung-Hungnam area. By 10 November, when VMF-212 was transferred to Yonpo, the group ground echelon was ready to begin operations. Five days later VMF-214, ordered ashore from the *Sicily* so the ship could prepare for anti-submarine operations, set up at Wonsan.

Because of a shortage of shipping in the theater, both squadrons suffered from a lack of heavy equipment. VMF-214 was particularly hard hit. The squadron maintenance and servicing gear, not needed aboard ship, had been left in Japan. MAG-12 made up most of the de-

ficiencies, but vehicles remained critically short. The squadron had only two jeeps, one jeep trailer, and one bomb-service truck. Through the herculean efforts of the ground crews, these difficulties were overcome and aircraft availability of 81 per cent was maintained.

The augmented air strength was used for cover over the columns advancing toward the reservoir and for extensive reconnaissance. Ground troops encountered only occasional small groups of enemy, but pilots ranging north and west of the column sighted many small CCF groups, some in the open and others hiding in houses. And thousands of footprints in the snow were clear evidence of the presence of a much larger force.

By 15 November, the 7th Marines was concentrated at Hagaru at the southern tip of the Chosin Reservoir, and the 5th Marines was moving up the road behind them. Repeated reports by pilots of enemy troop activity to the north and west served to intensify the fear of Marine commanders that their units might be cut off. To strengthen the division position they moved the tactical air direction center to Hagaru, where it would be in a centralized position to control aircraft, and started construction of a C-47 airstrip there.

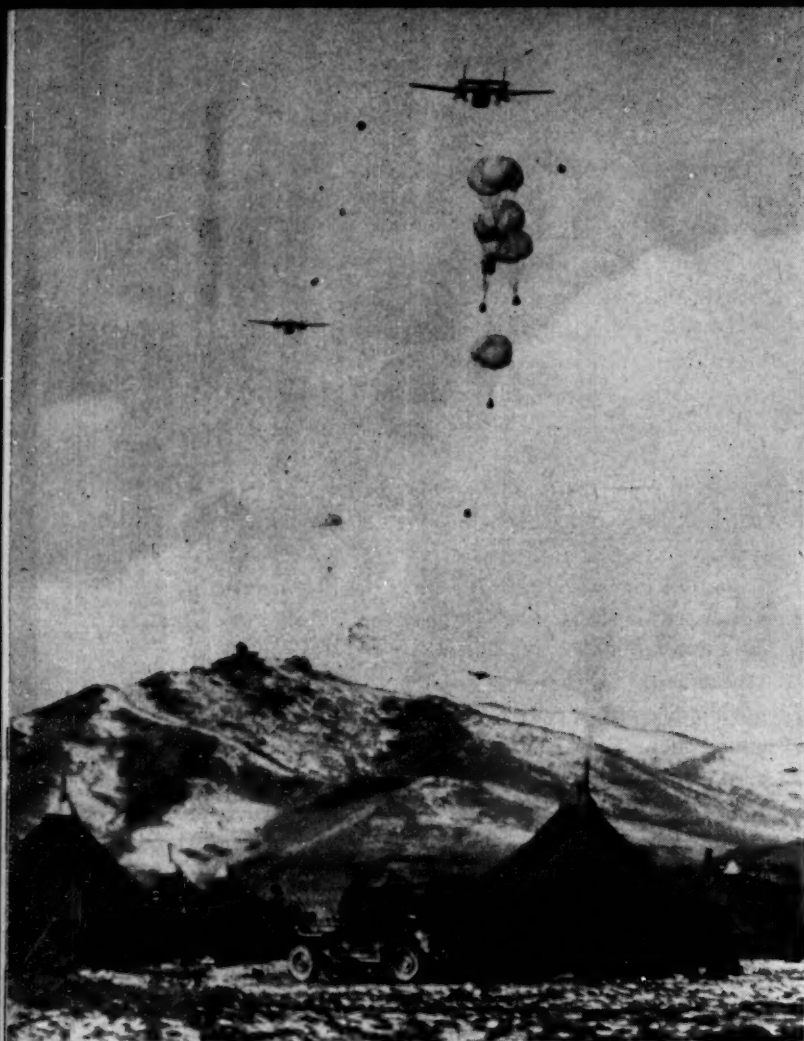
Under X Corps orders, the 1st Mar Div resumed the advance on 22 November towards Yudam-ni. Marine pilots flying cover over the column reported five roadblocks which were removed by engineers. And as the Marines approached Yudam-ni, they called in air to attack small CCF units attempting to delay the advance. By 27 November the 7th and 5th Marines were in Yudam-ni, and the 1st Marines were protecting the main supply route (MSR) with single battalions at Hagaru, Koto-ri, and Chinhung-ni. Thus the 1st Mar Div was relatively concentrated by comparison with other X Corps units scattered all the way to the Manchurian border.

Marine commanders had reason to be apprehensive, for the first blow of the CCF offensive fell on 25 November. Thousands of Chinese poured through the gap in north central Korea and struck the II ROK Corps on the right flank of the Eighth Army. The flank was overrun and the Eighth Army compelled to withdraw. CCF commanders now turned their attention to X Corps on the east, hurling the full weight of eight divisions, 80,000 to 100,000 men, against the 1st Mar Div in the vicinity of the Chosin Reservoir. Of all X Corps units, the 1st Mar Div was the only one in a posture of defense. The others were widely dispersed from Wonsan all the way to the Manchurian border, a distance of 150 miles. The wisdom of Chinese strategy in choosing to strike the Marines under these circumstances is an open question, but that they committed a serious error in underestimating the air fire and logistics support available to the division is proved by the fighting withdrawal from the reservoir.

Although the fears of Marine commanders had been

Prop wash blew the snow off the frozen runways





Vital supplies were air-dropped to trapped units

aroused by increased enemy activity in the Chosin Reservoir area, they were not aware of the magnitude of the enemy build-up. Wisely, the enemy chose to march by night and to hole-up by day in small villages. As many as 50 to 60 soldiers crowded into a single hut, and a whole battalion was concealed in one settlement. Supplies were carried on the backs of troops and pack animals, so that vehicular traffic was kept at a minimum. To secure his communications, CO 7th Marines dispatched Fox Co, reinforced on the afternoon of the 27th, to protect the vital 4,000-foot pass between Yudam-ni and Hagaru. And Baker and Charlie Cos were sent on reconnaissance patrols to the southwest.

For Marine air it was a day of routine operations. VMF-212 flew 20 sorties, 18 in close support of X Corps units and two on reconnaissance. VMF-312 carried out 27 sorties, eight in close support of Eighth Army elements, 16 in close support of X Corps, two on reconnaissance, and one photo escort. VMF-214 flew 30 sorties, all in support of the severely pressed Eighth Army. Aboard the *Badoeng Strait* VMF-323 was prevented from launching its Corsairs by inclement weather. The two night fighter squadrons, VMF(N)-513 and VMF(N)-542, had planes aloft during the day and night to fly a total

of 28 sorties on a wide variety of missions, including night intruder, day close support, and reconnaissance.

That night, at Wonsan, Yonpo, and aboard *Badoeng Strait*, members of the 1st Wing had no inkling that at Yudam-ni fellow Marines of the 5th and 7th Marines were engaged in a struggle for survival. On the morning of the 28th the eastern sky was still dark when five flights of Corsairs roared aloft to begin a day of all-out air operations. Winging through the blackness three flights headed northwest to the reservoir area. The other two pointed almost due west, for Eighth Army units too were in urgent need of close support.

Dawn found the Corsairs over the three principal battle areas. Northeast of the reservoir VMF-323 planes supported the withdrawing I ROK Corps throughout the day. To the west, VMFs-312 and 214 concentrated their attacks in support of the Eighth Army which had difficult going in attempting to withdraw to more defensible positions. Improvised flights utilizing the Corsairs of Headquarters Squadron-12 (Hedron-12) were directed both north and west. And VMF-212 flew all its sorties in the immediate vicinity of the reservoir.

The pattern of VMF-212 operations on the 28th graphically illustrates the typical employment of Marine air in the days which followed. During the morning and early afternoon, five flights of the squadron were directed in close support attacks by the FACs of the 2d and 3d Bns, 5th Marines against enemy troops ringed the two battalions from west to northeast of Yudam-ni.

The previous night the enemy had been able to concentrate his troops under the cover of darkness and launch his assaults from close to Marine positions. But now, in the broad daylight, the Corsairs prohibited him from massing. Through the morning, targets for Marine pilots were enemy troop concentrations and automatic weapons exclusively. Under the cover of air and ground support the 2d Bn, 5th Marines withdrew from its exposed position, and the two regiments formed an oval perimeter on the high ground surrounding Yudam-ni.

Meanwhile on the road just east of the reservoir, 1/32 of the 7th Inf Div, after repulsing a strong enemy attack on the previous night, was again beset by heavy Chinese concentrations. Five flights of VMF-212 planes were utilized during the afternoon by the 1/32 FAC to break up these concentrations. Once again the Corsairs were largely responsible for the enemy's inability to mount a wide scale attack.

Perhaps the most spectacular use of air on the 28th was made by the 1st Bn, 7th Marines which left the Yudam-ni perimeter to rescue C Co, cut off and surrounded on high ground overlooking the MSR approximately half way to the pass. Shortly after departure, the battalion ran into stiff opposition from a ridge top to the left of the road. Corsairs of VMF-212 were called in to hit the enemy positions, while A Co was deployed in a



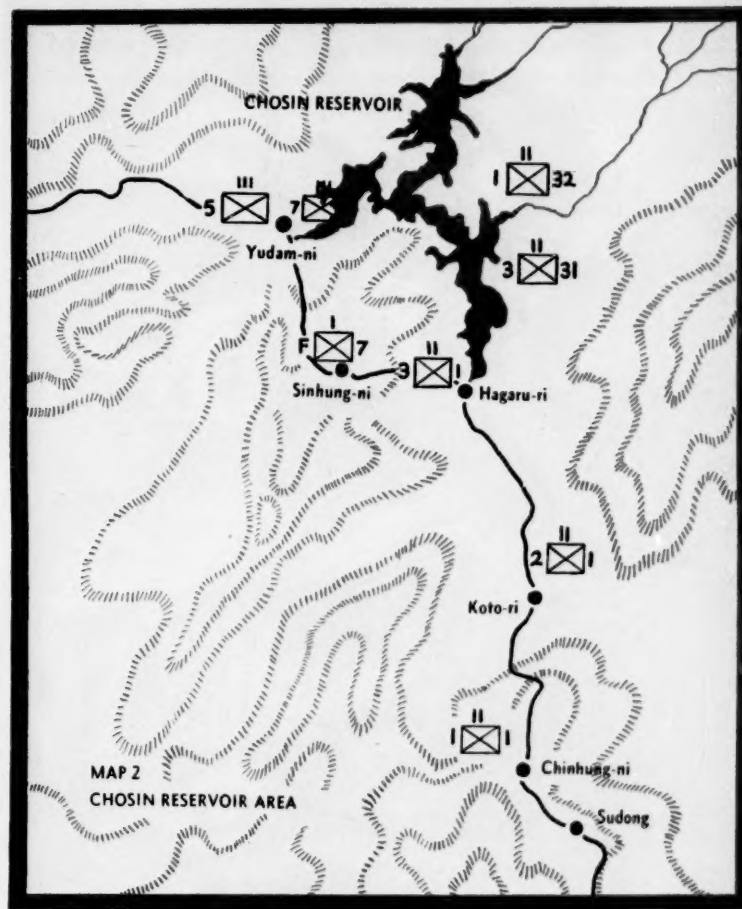
flank assault on the hill. But before the infantry could close with the entrenched enemy troops, they broke under the napalm, rocket, and fragmentation bomb runs of the Marine planes. In their desperate attempt to escape, the Chinese Reds fled down the reverse slope of the ridge and attempted to reach the MSR beyond C Co's position. A Co quickly occupied the ridge top and combined with C Co and air to wreak havoc on the fleeing enemy.

Meanwhile, as B Co approached its destination, it came under heavy automatic weapons fire from the slope of the ridge mass to the company's right and across the road from C Co. By this time the sun had set. Ammo was low. The men were fatigued. And 1/7 faced the prospect of closing C Co and fighting its way back to Yudam-ni—without air support. It was almost dark when the Marines looked up to find two Corsairs silhouetted against the evening sky. They were immediately contacted by the FAC, Capt Dan C. Holland, and oriented on the enemy concentration. Attacking in the dusk, the Marine pilots blasted the enemy with lethal doses of rockets, bombs, and 20mm shells. So daring were these firing runs, the FAC felt compelled to warn the pilots that they were perilously close to the almost obscured ridge mass. But persistence paid off, for again the Chinese Reds broke under air attack, and fled toward the valley floor. Now it was the turn of B Co to join with air and C Co in taking a heavy toll of the exposed and panic-stricken enemy. By this time even the light in the western sky was almost gone, so the Corsairs pointed for Yonpo. Flying home for a tricky landing on a dimly-lit strip, the pilots carried with them the thanks of the battalion and the FAC's report, "Ordnance right on, excellent coverage." During the engagement the team of VMF-212 and 1/7 inflicted such a resounding defeat on the enemy that the Marines returned to Yudam-ni without firing a shot.

During the day the U. S. Air Force dropped vitally needed ammunition and medical supplies at Yudam-ni, while helicopters of VMO-6 evacuated 50 seriously wounded Marines from the perimeter.

On the 28th, the 1st MAF flew 114 sorties, 62 in support of X Corps and 52 for the Eighth Army. Up to this time attacks on enemy troops had been relatively few, but on this date CCF concentrations were attacked again and again—a clear hint of things to come.

The 29th of November was to be another day of all-out air operations, but the snow which had fallen during the night and low ceilings delayed take off. At Yonpo six inches of snow covered the runways, and at sea bad weather prevented the *Badoeng Strait* from launching planes. It was 0845 before the first plane was airborne, but by 0900 all three of the land-based day fighter squadrons had flights heading for the embattled zone of the reservoir. Of the 125 day combat sorties flown by the 1st MAF on this date all but six were directed to the Chosin Reservoir area, for by now the grave danger to the 1st



Mar Div and the Army 7th Div elements was clear. The enemy had massed his strength to strike a death blow against the strongest element of X Corps.

Winging north from Wonsan and Yonpo, Marine pilots were startled by the swarms of enemy troops flooding over the countryside. Targets all day long were enemy troops and gun positions. On the previous day enemy troop concentrations had been attacked on 29 separate occasions, but on the 29th the number jumped to 61.

In the reservoir area, the pilots had their work cut out for them, for the isolated Marine and Army forces were under heavy attack. A VMF-312 division of four planes went to the aid of the 3d Bn, 1st Marines defending the Hagaru perimeter. Three hundred enemy troops overlooking Hagaru from the east were attacked with fragmentation bombs, rockets, and 20mm shells. Approximately 75 were killed and a higher number wounded. Throughout the day 3/1 employed Marine air to help keep the enemy at bay.

A section of VMF-212 Corsairs attacked enemy troops in close support of Task Force Drysdale, moving north from Koto-ri to Hagaru with reinforcements and supplies. The convoy used air extensively during the hours of light as it moved forward against steadily increasing opposition. By dusk however, vastly superior enemy forces had succeeded in separating the task force into three parts.





Briefing had to be fast, sure, yet detailed

The head of the column pushed through to Hagaru, and the rear segment made its way back to Koto-ri the next day, but the center was isolated about midway between the two towns. Close support by VMF-212 planes enabled the Marine service troops, Army troops, and a few British Marines to beat off incessant CCF attacks during daylight. But when darkness descended the Corsairs had to turn home, and the enemy made casualties or prisoners of the defenders.

Meanwhile other flights from all three land-based day fighter squadrons played an important part in the defense of the Yudam-ni perimeter. During the day CCF forces limited themselves to assaults against the northern sector guarded by the 1st and 3d Bns, 5th Marines. The devastating combination of assorted airborne ordnance and ground fire inflicted such heavy casualties on the attacking waves of Reds that the attacks were spent before they could close Marine positions.

A typical example was the afternoon assault against B Co. At noon aerial observers had reported some 2000 enemy troops cautiously attempting to group north of the perimeter. Air pounded these concentrations with such good results that when the attack was launched it had

become a piecemeal venture.

Even so, about 500 enemy were able to launch an assault against B Co at 1500. To the accompaniment of the usual cacaphony of bugles, whistles, and shouts, the Reds swept down the slope of the ridge facing the Marines. The pilots could not hear the din, but they needed little coaching from the FAC to locate the target. Peeling off at 5000 feet the Corsairs dived down to make "on the deck" runs. All four napalm tanks struck the attacking wave, scoring direct hits which tore large holes in the enemy line. As the last plane dropped its ordnance, the first was back, tailed by the others, to attack the faltering enemy with strafing runs. The assault lost momentum, and the Reds soon had enough. They broke into disorganized flight to escape the rain of 20mm shells. But even these small groups were not immune to the continued strafing. Although small arms, automatic weapons, and 4.2 mortar fire took their toll, it was the Marine planes which had broken the back of the enemy assault. Of the 500 enemy who initiated the attack, Corsairs were credited with killing some 300.

Meanwhile, Army troops of the 31st and 32d Infantry on the east side of the reservoir were having their troubles, too. Corsairs on station over 1/32 covered the battalion as it crossed a frozen finger of the reservoir on its way to join 3/31. Repeated strikes kept the Red troops off balance, allowing the Army unit to make the crossing safely.

All the rest of the day 1/32 moved forward under constant cover of planes from VMFs-212, 214, 312, VMF(N)-513, and Hedron-12. Thousands of enemy troops moving south on the road and along the ridges made excellent targets. Red guns and mortars already in position also got their share of napalm, rockets, and bombs. In addition to the cover afforded by Marine Corsairs, much needed supplies were dropped by the Air Force Combat Cargo Command. At times, the FAC found himself directing both air drops from cargo planes and close support strikes over the same radio net. The air was filled with cargo planes, chutes, and agile Corsairs—and all most welcome.

Finally, 1/32 joined the casualty-ridden 3/31. But only after 40 Marine aircraft had hit the enemy with some 225 rockets, 18 napalm tanks, 10 500-lb. bombs, and 29 fragmentation bombs. This ordnance was delivered from early morning until the last flight left its station at 1705.

The thirtieth dawned bright and clear. Snow still covered the field at Yonpo, but a narrow strip of the runway had been blasted clear by the prop wash of planes. It was to be another day of maximum effort in support of Marine and Army troops trapped at the Chosin Reservoir. Beginning with a night strike launched at 0015 and ending at 2000 when the last plane returned to base, Marine pilots flew a total of 146 sorties.

Before dawn, night fighters of VMF(N)-513 and VMF(N)-542 flew three close support sorties. A single Tigercat of VMF(N)-542 made rocket and 20mm strafing runs on enemy troops west of the 3/1 perimeter at Hagaru at 0045. According to the FAC these runs were "right on." Five hours later, two Corsairs of VMF(N)-513 made a very effective pre-dawn strike in support of B Co, 1/5 at Yudam-ni. The ground troops marked their front lines with illuminating hand grenades, permitting the planes to come in close to drop their fragmentation bombs and strafe with 20mm cannon.

At first light, Corsair day fighters began taking off from Wonsan, Yonpo, and the *Badoeng Strait*. By 0650, a two-plane flight of VMF-212 was over Yudam-ni to deliver the first of 36 sorties in support of the 5th and 7th Marines as these two regiments tightened their perimeter and regrouped preparatory to breaking out towards Hagaru the next day. A second flight of two Corsairs from VMF-212 arrived over Yudam-ni at 0730 and was called in by the FAC of 3/5 to strike attacking enemy troops. Diving down, the pilots dropped napalm and fragmentation bombs and fired rockets. By 0740 the attack had been repulsed. In the afternoon, 3/5 was attacked again. Planes of VMF-212 and VMF-312 were called in to strike the attacking enemy, and by 1600 the attack had been contained.

Meanwhile other Corsairs were coming to the aid of a 7th Marines composite battalion which was trying to open the MSR back to Hagaru. Excellent observation was provided by an observation plane (OY) pilot who spotted large bodies of enemy dug in on the high ground on both sides of the road. Planes from VMFs-212, 312, 323, Hedron-12, and VMF(N)-513 were called in and hit the enemy repeatedly. But the Chinese replaced their troops as soon as they were hit, forcing the Marines to break off

the attack and return to the perimeter.

The other isolated Marine units had a relatively quiet day but called in air to strike enemy troops surrounding their positions. Fox Co at Sinhung-ni received 10 sorties, 3/1 at Hagaru 18, and 2/1 at Koto-ri 10.

On the east side of the reservoir, Army troops of the 7th Inf Div had drawn into a defensive perimeter and were under heavy attack. Capt Edward P. Stamford, USMC, their FAC, directed aircraft against the attacking Communists with devastating effect. During the day he directed 38 sorties, making this the major effort of the 1st MAW for the day. From 0645 until 1830 Marine planes attacked the Chinese, dropping 21 napalm tanks, 16 500-lb. bombs, 21 fragmentation bombs, and firing 190 rockets. All attacks on the perimeter were repulsed.

The remaining 34 sorties flown by Marines during the day were directed at targets throughout the X Corps zone of action.

For three days Marine pilots had played a vital role in the defense of the perimeters. Each day had seen an increase in the number of sorties flown, and pilots and planes were beginning to feel the strain of long hours aloft. But they knew that more, much more, was expected of them in the next few days. The Marines were coming out and they were coming out fighting. They were counting on their flying counterparts to help make it possible when the going got roughest, and to strike at the enemy-infested hills along the route of march when no other weapons could be brought to bear.

The Marines took their first steps back or forward, depending on your point of view, on 1 December. The breakout from the reservoir had begun. USMC

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*Next Month: 1st MAW in the Breakout from Chosin Reservoir.*

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#### Strike after strike, like this close napalm run, kept the Reds off balance



# MISSILES OVER

ILLUSTRATED BY PFC CHRISTOPHER C. MAGALOS

• HUNDREDS OF ALL types, directed against sonic targets and fixed land objectives every week in the heart of New York City. Nobody gets hurt despite the fact that some make direct hits and others miss.

Some even go crashing in Times Square.

Residents of New York City, however, never see these missiles of destruction, because they are "flown" by electronic simulation at one of the most unusual guided missile test centers in the world.

Formerly a classified U. S. Navy project referred to as "Project Cyclone," this radically new research center is the result of a far-sighted Navy program to save America millions of dollars, years of time, and an untold number of lives. By creating this guided missile simulated-flight laboratory, more "missiles" can be launched in a week's time than are launched from all the other test ranges of the United States in an entire year. Under the direction of the Special Devices Center of the Office of Naval Research, and with the backing of BuAer, the Reeves Instrument Corporation, (located in Manhattan at 91st Street), subsidiary of Claude Neon, Inc., was

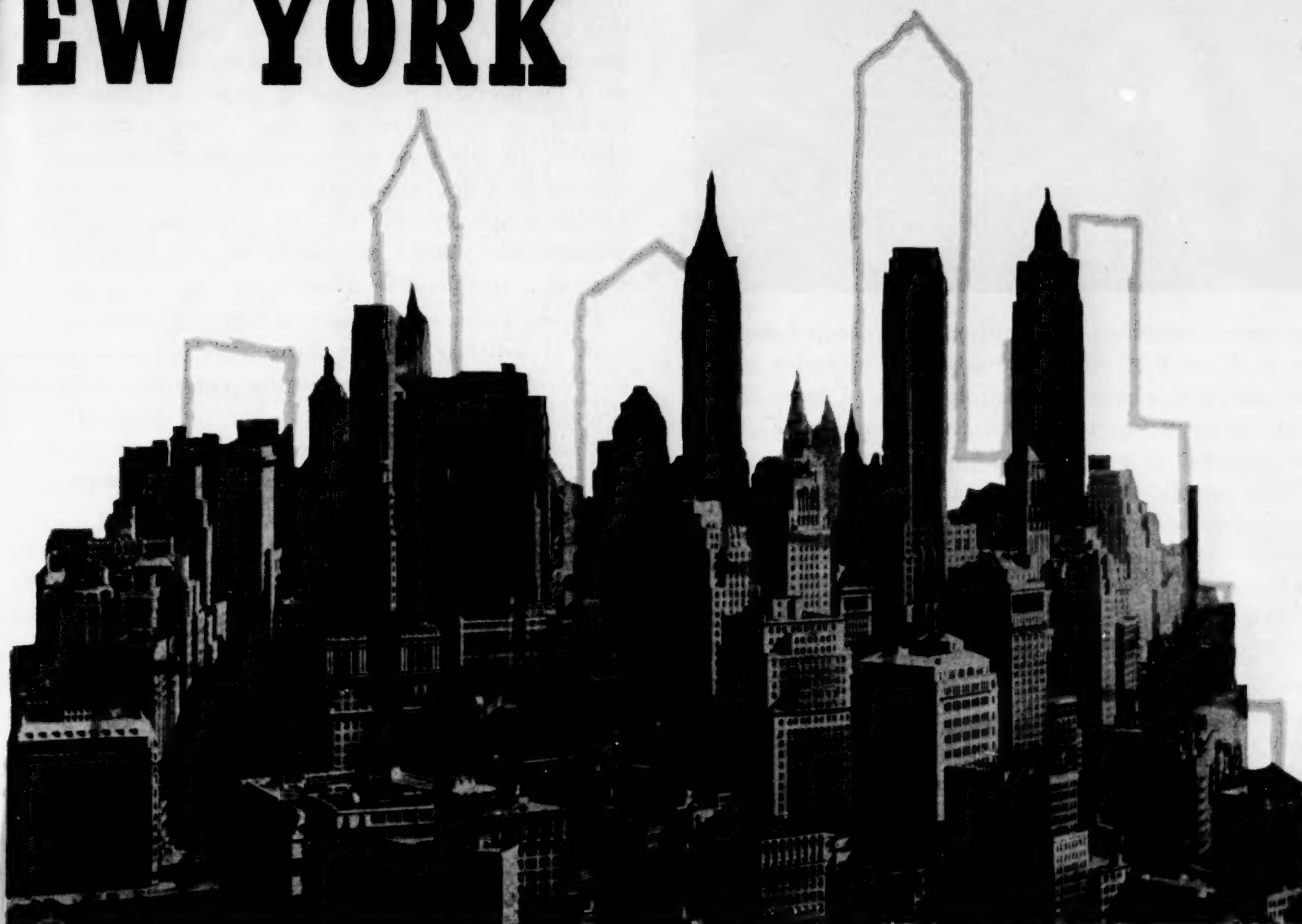
called upon in 1946 to create a computing center where simulated missiles, rockets, and planes could be flown and tested before being built or even designed.

With top Navy and Claude Neon scientists working against what seemed like insurmountable obstacles, the "House on 91st Street" became one of the Navy's important projects, the results of which have advanced the Navy's success in this highly important field many years ahead in time and perfection.

• PROJECT CYCLONE, GROWING OUT of an idea, now consists of a large group of high-speed electronic analog computers. The Claude Neon REAC (Reeves Electronic Analog Computer) is the basic computing unit in the laboratory and was developed and has reached its present state of perfection through sound Navy investment. It is all-electronic in operation and has been designed for mass production for use in industry. The REAC is an analog-type machine which differs in many ways from the highly publicized "giant brains" or digital computers, a few of which are now in operation. The Cyclone computers are especially designed to digest the complicated equations relating to the flight of a guided missile and therefore can simulate or imitate the exact be-



# NEW YORK



havior of the missile under a given set of conditions.

Basically the digital computer can be compared with a desk calculator which operates entirely by addition and subtraction of whole numbers. The analog-type machine can be compared with a slide rule which has specific functions built in and can solve problems very rapidly. Through its extreme versatility, it can be easily and quickly programmed to solve directly the complex equations of flight. Since the digital machine's basic operation is one of addition and subtraction, the process of preparing a problem for solution is very tedious and subject to human error, making it too cumbersome and expensive for work involving ordinary design and simulation problems.

In operation, Project Cyclone can launch any type of missile ranging in size from the "peanut" variety to others which can fly any distance whether from plane-to-plane or if desired, around the world—many hitting the target at these great distances. The cost of a few cents for electric power is all that is required to launch a Cyclone missile as compared to considerable cost in firing an actual flight missile.

Some of the missiles "shot out into space" from the Navy's Special Devices Computing Center follow radar

beams to their targets; others have homing radar sets in their noses that seek their own moving targets, overtaking them in a few seconds; and some are launched from elaborate ground ramps and travel hundreds of miles seeking their targets; while still others are being launched from fast flying jet planes or ships.

In order to evaluate Project Cyclone, the Navy submitted a typical problem in connection with a missile in its early development stages. The problem was to determine whether or not the missile would remain stable in flight and hit the target. In other words, would it respond properly to its control equipment and not go out of control and crash? One stage of the problem concerned the optimum wing and tail design to give the best aerodynamic characteristics. The problem took 108 man-days at a cost of \$3,240 to solve in Project Cyclone. It was calculated the same problem would have taken 2950 man-days at a cost of \$73,725 if the fastest available hand methods had been utilized. To solve this problem in the same detail by actually flight testing experimental missiles at a missile firing range would cost over a million dollars if preliminary design computation had not been worked out.

Elaborate yet inexpensive preparations precede each



simulated launching. Test apparatus is checked and put in readiness that will record details of operation of the missile's highly sensitive control system. A large illuminated glass surface records the path of the missile's flight to its target as a mechanical finger traces out the flight characteristics. If it misses its target or goes out of control, scientists digest this data to determine just what design corrections the next missile will require before it is launched.

When a missile is first conceived, its designers are able to express its required performance, i.e., speed, range, accuracy, maneuverability, etc., in terms of complicated equations of advanced calculus. Since the specifications that the missile must meet are known, they form in a general way the answers to the equations.

These equations are set into the computers and the various values in the equations are then varied until the answer from the computer matches the desired performance. These values, which are set on dials on the computer's control panel, then represent such things as length of missile, wing shapes, weight, power of its rocket or jet engine, fuel capacity, and a host of other design requirements. The same procedure is used to design the control systems of a missile that automatically guides it to its target.

Actual missiles are brought to the laboratory and flight tested by connecting their control systems directly to the computers. The computer is made to imitate complicated maneuvers and the performance of the control devices is observed and changes made on the spot to improve design.

Missile operators may be trained to fly missiles in Project Cyclone. Their ground control devices are connected to the computers which are set to imitate exactly the characteristics of any actual missile. Also connected to the computer's output is a large plotting surface to trace the actual course of the missile to its target. The operators launch their missile by pressing a button.

A pen starts to move across the plotting surface, and the operator then manipulates his remote guidance controls to direct the pen to its mark. The behavior of the pen in response to his controls has the same exact "feel" as if the operator were guiding an actual missile being tracked by radar and its course being automatically plotted. In this way an operator can fly hundreds of missiles in a day and hence will be in perfect practice for his complicated job when an actual missile is flown. Without this practice an operator is very liable to lose control of his missile in actual flight.

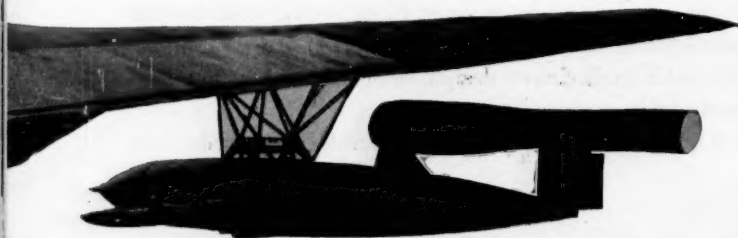
Project Cyclone is actually saving the taxpayers millions of dollars each year through its unique approach to missile design by employing electronic equations through the REAC elements. By so doing, Project Cyclone has conquered mathematical obstacles in arriving at a final missile or aircraft design economically feasible.

Even long before the war, scientists and engineers knew that an airplane could be designed completely by electronic analyses and complete flight characteristics could be determined before the craft was even built. Unfortunately, without some sort of high speed electronic computing device, it would take a large staff of mathematicians several years to arrive at a single design. So the cut-and-try method of design continued. Planes were constructed, then flight-tested at great risk of life and equipment. After exhaustive flight tests, the engineers digested the data and made modifications to the prototype ship to embody the required re-designs. Often the re-design was so extensive that a whole new experimental model had to be built. In some cases, a design had to be abandoned altogether after millions had been spent on constructing flying models and conducting elaborate flight tests.

The introduction of the high speed computer, of which the REAC was the first to be built in quantity and applied specifically to aircraft work, made possible the long awaited electronic solution.

Project Cyclone not only developed the necessary computing equipment, but was the first to apply it extensively in a specially built laboratory devoted exclusively to the design and test of guided missiles and other related Navy weapons.

To flight test an actual missile costs a considerable amount on elaborate ranges with radar tracking systems, telemetering devices, and hundreds of trained personnel. The missile itself is expensive and in most cases cannot be recovered. Under outmoded methods hundreds of test



flights might be required before a missile's design is accepted for production. The Cyclone laboratory, with a minimum of personnel, carries out thousands of flights by means of simulation and computation at only a small fraction of the cost of actual flight tests. As a result, the whole design and test process is speeded by an average factor of 30, and it has been shown that missiles can be made ready for quantity production a whole year sooner than would be otherwise possible.

THE NAVY HAS FOUND OTHER problems for Project Cyclone besides guided missiles. The introduction of high speed submarines has brought forth problems in hydrodynamics. The behavior of a hull in water is similar to that of a guided missile in air, and therefore the same basic equations apply. Before submarines are built, their hull shapes and the design of depth and steering controls can be determined before expensive subs are built and tested.

In aircraft design, as well, the Project's techniques can be directly applied. Commercial as well as military planes can be tested and design configurations determined long before prototypes could be built and tested, and at a fraction of the cost. Wing shape and size, wing position, tail area and its shape and position, shape of fuselage, number and power of engines, engine control and auto pilot designs, as well as stress analysis of the airplane's structure, can be quickly determined given such performance requirements as speed, rate of climb, pay load, fuel consumption, range, etc.

Since most of the Navy's aircraft appropriations must go into development of new aircraft to meet the high rate of obsolescence today, it can afford few planes for reserve training and fleet operations. Project Cyclone affords a possible means of drastically reducing its aircraft development costs.

Project Cyclone through the Claude Neon REAC computer might well lead to bringing about a decided effect upon the American standard of living.

Commercial jet airliners, larger and faster than any in use today, will be a reality years sooner. Automobiles of the future will be here long before anyone realizes. Auto body springs and shock absorbers can be quickly designed for the best riding quality. Many parts of the engine can be designed with the aid of the REAC.

Bridge structures are a good example of the computer's versatility. Stress and vibration of bridge structures due to wind and traffic can be quickly determined

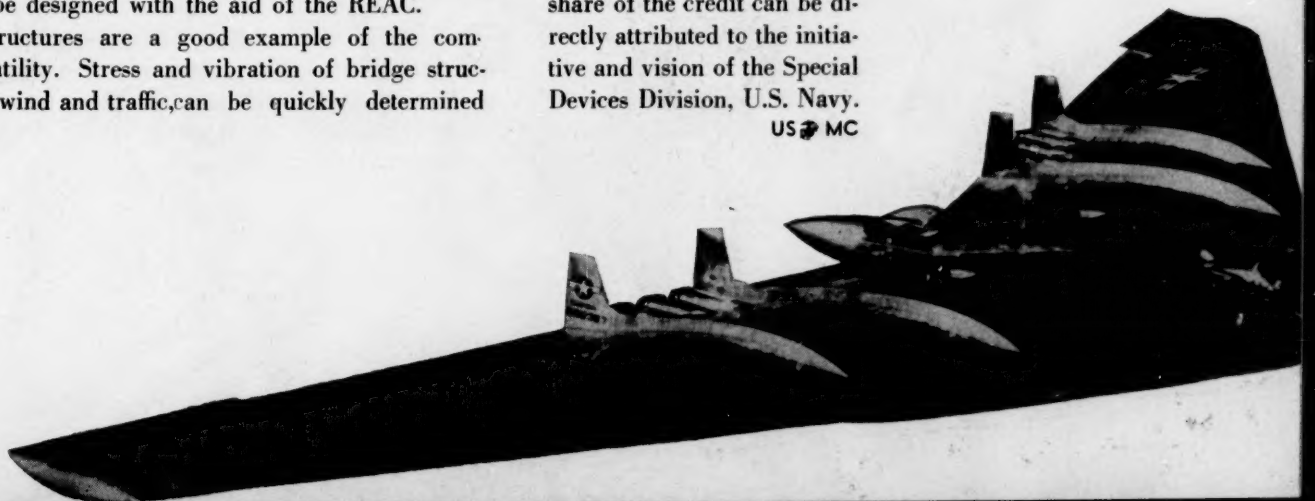
without even building a model.

Problems involving the efficient concentration of chemicals can be determined in a matter of a few hours. Chemical laboratory experiments would take months to accomplish the same results!

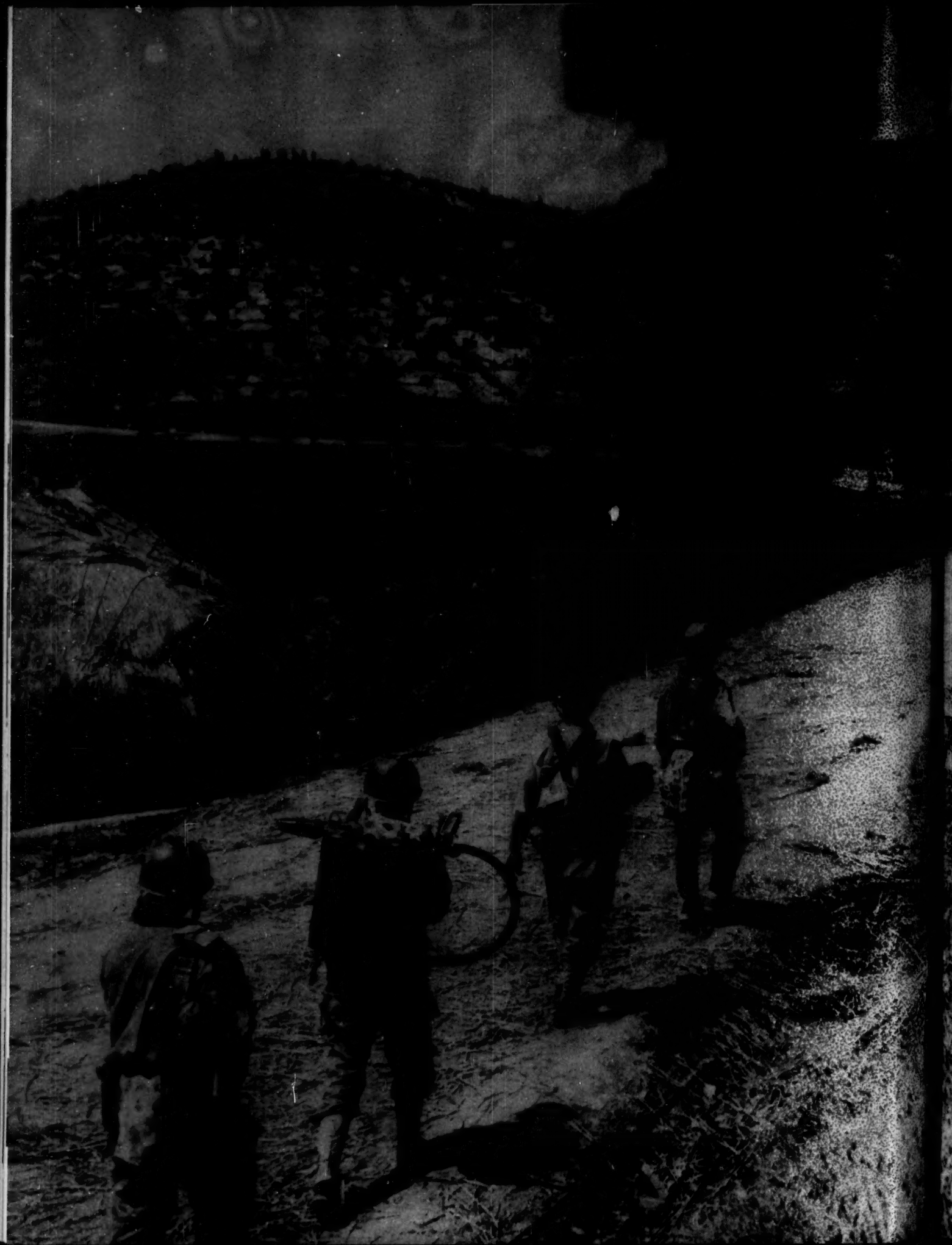
The automatic factory of tomorrow will be designed around information obtained from the analog computer. Continuous industrial processes such as steel and glass manufacturing can be simulated on the computer, and automatic controls can be designed without interrupting the actual process for months while expensive trial-and-error methods are employed.

Although the techniques developed by Project Cyclone, and in particular the REAC computers, are now being used by industry and Government, it is anticipated that as further progress is made in this field even greater economies will be effected and more complex problems solved. Through universities, government agencies, and technical publications, the scientific world is now becoming more acquainted with the new mathematical design concept. As soon as this concept is more universally known, other advances in scientific research will be accomplished and the major share of the credit can be directly attributed to the initiative and vision of the Special Devices Division, U.S. Navy.

USMC







# an afternoon

By 1stLt Donald V. McCloskey

☛ FIGHT ALL DAY, MARCH ALL NIGHT, THE CADENCE SEEMS TO BEAT OUT ON THE rock gravel road. The man ahead of you is just as tired as you are, you keep telling yourself.

The column splits up on the sides of the narrow road as if taking cover from a strafing attack, only in slow motion. Small, scraggy trees line the road every four or five yards. It is early afternoon and the shadow they cast from the hot sun is small. There is a ditch by the road, full of feces-laden water.

The situation? You know no more than that some reconnaissance men, part of Dog Co, and your forward command post are being shuttled ahead by jeeps along this lonely road to speed movement.

You sit alongside the road, it is hot, and in a few seconds you are asleep. Your last decent rest was a day and a half before, and then only a few hours. Suddenly, you wake to find yourself rolling down the bank into the dirty water. Well, you have





**You see the tanks behind a rocky hill**

been in these sweaty utilities since Sunday—four days ago—so what?

You go back to sleep and a Marine shakes you awake saying report to Col R—. Col R— tells you Dog Co is in trouble up the road about two miles and needs mortar fire.

You get two jeeps, have one filled with ammunition, put two guns and crews in charge of McVay in the other, and shove off.

Coming toward a bend in the road you see two tanks backed behind a rocky hill and hear small-arms fire in the distance. The tank men say Dog Co is up the road. You have McVay put the guns in action a few yards off the road behind the tanks, and you and Hruz take off up the hill.

When you get on top you see a rice paddy valley to your front, a few huts on the foothills rolling into mountains on the right, and a ridge line beyond the valley broken by a narrow defile. The road runs through the gorge in the ridge. You can not see the company, but you know about where it is. You decide to fire to the extreme left and right flanks and go to a spot where you can see better.

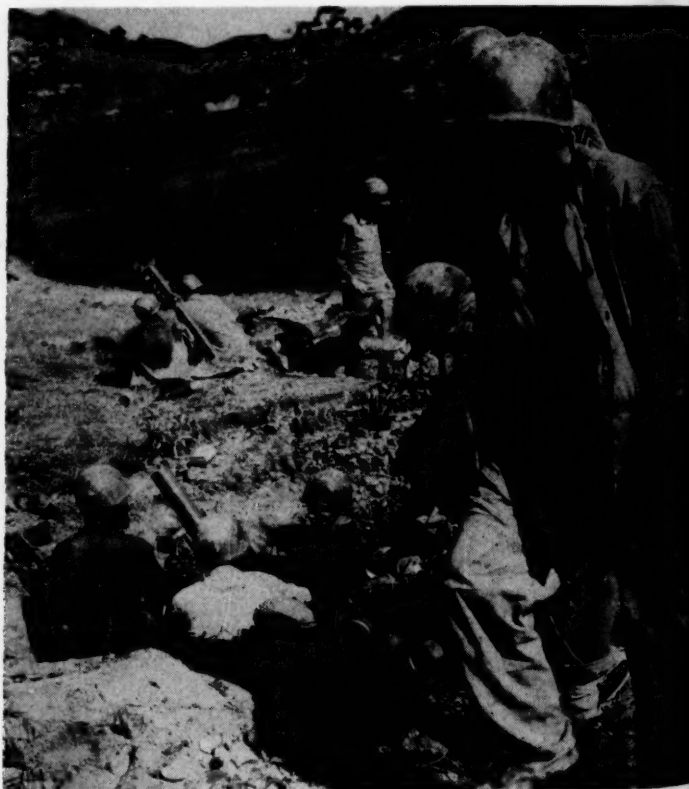
You and Hruz work back down the hill and start up the road, and as you swing around the tanks you see a platoon of Easy Co lining the bank of the road, pointing up the valley toward the huts on the right flank. Col S—is standing near them and you think of the Basic School.

A little farther down the road you run into Degulis and Blomgren. Blomgren has been hit in the knee and Degulis is helping him dress the wound. They say Dog Co was ambushed as it went through the defile.

The hill Hruz and you are alongside looks like it might be high enough to give a view of the fighting so you start for the top and run into a prostrate Marine with two buddies standing over him — a casualty from the heat.

You reach the top and the battle is before you. It is evident what has happened. The road, after leaving the defile, goes straight about 600 yards through two large rice paddies and at the end of this stretch disappears by turning right behind a long finger from the mountains on the right.

There is a hill on the left of the road, across from the finger, rising weirdly out of the paddy and shaped like a mole hill. The hill and the finger lay within a large U-shaped valley. You are on one side, the enemy the other, and Dog Co is in position along the finger. The open end of the valley points to the left,



**You switch the mortar fire to the front of Dog Co**



entering a much larger one. Beyond that valley are more mountains and the sea.

Three or four jeeps are burning on the road. The enemy had been in position on the rear slopes of the mole hill and the finger. When the column was practically upon them, they leveled the road with fire and forced the column into the rice paddies. Their weapons and ammunition were soaked.

Dog Co is now engaging the enemy by fire from the top and forward slope of the finger. You can see an ambulance jeep evacuating casualties—among them is Reeves. Forty-eight hours earlier he had reported over the battalion tactical net as "Rosebush Dog, Master Sergeant Reeves, acting company commander," in the crisp and precise diction of a soldier who has long served his country.

You switch the mortar fire from what is now your left and right rear flanks to the front and left front of Dog Co. You use a lot of white phosphorus.

Four planes are circling above but no one in the observation post can speak Air's language. Someone gets Jeter and he talks to the pilots and they begin beautiful strikes along the ridge on the far side of the valley.

The situation is firming up now. You can feel the pressure lifting on Dog Co. The enemy has little inclination to fight. Col R\_\_\_ is receiving a report from Maj Mc\_\_\_ and it seems the enemy is on a hit and run mission.

While Jeter is working over the ridge Col M\_\_\_ and Col S\_\_\_ come on the observation post. The enemy is running along the ridge, bunching up, and a 500-pound bomb drops squarely on a group in the draw.

You hope the planes have napalm. (None has been used yet.) A large tank floats down from a diving plane and you cheer inwardly. But your happiness is dispelled when it bounces up once and rolls gently down the ridge. Your napalm is an empty gas tank.

Col M\_\_\_ is giving orders to Col T\_\_\_ and Bohn. You figure they will be passing through your battalion. You suspend fire. Col R\_\_\_ ties things up and you both walk down the hill to the road to Dog Co.

Col R\_\_\_ suggests picking up the temporarily abandoned weapons lying along the road, and as you pick them up you think of the little fellows who always lug the BARs in the squads.

Capt Z\_\_\_ is reorganizing his company. They are test firing weapons, so they take ours, strip them, and make new weapons from the spare parts.

About this time you see three Koreans bending over something in the rice paddy. They are about 300 yards to the left, dressed in white garments, exactly like the enemy captured yesterday.

Several men open up on the Koreans. They bob up



"We've got to get up there, Mac"

and down the paddy levels nonplused by the fire, finally moving toward some huts to the rear. The huts are on the forward slope of a hill. As the Koreans amble up the trail it is evident they have been hit. Blood is all over their garments. They do not hurry nor stagger, but reaching the huts they squat and watch us. They are about 800 yards away now.

It is late afternoon. The battalion receives orders to reconnoiter the road to the front. The 3d Bn is coming up. Maj Mc\_\_\_ and some men from Dog and Headquarters companies pile on a jeep and go up the road.

George Co is marching down the road now, led by Jack, moving out fast, and you trot along giving him what situation there is. He does not stop or slow down, but speeds up saying, "We've got to get up there, Mac."

After George goes through, a P-51 with indistinct markings comes out of nowhere. It circles a couple of times, then begins a strike perpendicular to the left front. George Co has a patrol out there and it is caught in the path of the plane's shells. The exploding shells, the men running through them like animated puppets over ground made pink by the later afternoon sun—all paints a weird picture. Miraculously, no one is hit by the careless strike.

A man, crying and staggering, comes down the road. He tells us between sobs that Maj Mc\_\_\_ and his party have been badly shot up. The major is seriously wounded. One man is dead, others wounded.

You are in reserve now for the first time since early Monday morning. It is only Thursday afternoon. You feel it is a much longer time than the hours and minutes add up to.

The immediate task is to get a little sleep, a bite to eat, a quiet smoke. You want time to shave and write a letter home saying, "If we had a few more men, we could win this war in no time." You want to be ready for tomorrow and the next day.

# The 60mm Mortars in Korea

By 1stLt John E. Nolan, Jr.

ILLUSTRATED BY PFC ANTHONY KOKINOS

THE 60MM MORTAR SECTION HAS ABOUT ONE-TENTH the personnel of the rifle company and is capable of furnishing an even greater percentage of the company's total firepower. As an efficient, mobile, close-in support weapon, it can cover and protect the forward units of patrols, pound stubborn defenses before an assaulting platoon, and ring a company defense line with a wall of HE protection closer than any other support weapon would dare to be used. These are the theoretical capabilities of the 60mm mortar section. These are the reasons for its inclusion in the T/O.

During the Korean war there have been enough cases where the 60mm mortar section of a company did not live up to these capabilities to question the value of having one at all. Time after time the mortars were not used when they were needed, or proved ineffective when they were used. In many companies they went through attack after attack without firing a round and their principal effect on the company was to strike terror (whenever

they had occasion to register) into the hearts of riflemen on the line. It is the purpose of this article to discuss the reasons for this not uncommon condition and to point a way to its solution based on recent experience with the "60s" in Korea.

The section has a personnel problem more difficult than the company's other units. It is often used as a small-scale casual company where new replacement officers are assigned as rifle platoon standbys, and NCOs and riflemen from the line are placed to spend their last days before rotation. This policy of letting replacement officers become acquainted in the company before giving them rifle platoons, and taking men off the lines after long months in combat is a wise one, and its advantages to the company offset its disadvantages to the mortar section. And these disadvantages can be overcome if the section is properly trained.

What kind of training does a mortar section need? First, gun drill. Its importance cannot be overemphasized.







Going through gun drill until every man in each squad, from the number one gunner through the last ammo carrier, is so familiar with the motions that he does them automatically, must be the first step on the road to successful operation. More often than not the section will have ample time for gun drill, even in a frontline company. Nothing beside time is needed. The men, the guns, and enough space to put them into action are available anywhere. Gun drill is an exercise in coordination of the hands, and mortarmen never can get too much of it. It is the basis for rapid and accurate mortar fire.



We found that after preliminary gun drill had been held, proficiency could be maintained by putting a qualifying time limit on each operation. For example, as each man is able to put the gun into action accurately in 20 seconds and shift to a different target in 7 seconds, he is dismissed from gun drill for the day. In the beginning this will take longer, but the added incentive and the competitive angle will soon produce results. Gun drill will become a short and snappy daily run that keeps everyone's skill up to par.

## The mortar officer may be justifiably proud of his section, but he must sell his mortars to the rest of the company

Once the section is well trained, it is further the job of the mortar officer—and this is the crux of the whole problem—to sell his section to the company commander and the rifle platoons. Failure to make proper use of the mortar section is more often caused by unfamiliarity on the part of small-unit commanders, than by inability within the section itself. The company commander may be aware of the capabilities of his 60mm mortars, but his willingness to employ them is based on what he has seen of them in action. Also, since the company commander must give his first attention to the employment of his rifle platoons, he should be able to rely on the judgement of his mortar officer when it comes to employing the mortar section.

There are a number of ways to gain the company's confidence in its 60mm mortar section but the soundest and surest way is by firing the mortars whenever there's a target for them. Where the company commander is

concerned, proposed action of the section should be presented to him in the form of a recommendation with all the details cleared away so that he may simply answer "yes" or "no" and observe the results. Where the rifle platoons are concerned, their confidence is gained mainly through registration of concentrations on avenues of approach in front of the platoons' defensive positions. The more rounds fired over the heads of friendly troops and the closer to the line those rounds land, within the limits of safety, the more confidence troops will have in



their own mortars and the more effectively the section will fulfill its mission.

Here is the perfect chance for the mortar officer to use a bit of showmanship that really pays dividends. The enthusiastic acknowledgement of a correctly registered concentration is not only a shot in the arm to the men on the gun, but it also builds up the confidence of the troops on the line. Occasionally the registration point will be a clearly marked point of land; the nose of a small ridge leading into the position, a small draw in plain view of the entire line, etc. When such a point is hit in the first two or three rounds, the mortar officer's



verbal enthusiasm should know no bounds. When a concentration at an extreme range doesn't seem to work out, the observing officer is still justified in giving a crisp order to record, which indicates to all that the results could scarcely have been better. Call this hamming if you will. Many of the men watching a mortar registration are casual observers and automatically accept the judgement of the officer conducting it. As soon as the mortar officer is satisfied that his concentration is as good as it can be, he might just as well call it perfect. It makes everyone feel a little better, but more important, it achieves the desired result of establishing his section.

On one occasion a squad from our section supported a rifle platoon to the eminent satisfaction of all concerned. The platoon was dug in as an outpost on a high rocky piece of commanding ground north of Hongchon in central Korea. The mortar squad, placed just over the crest on the reverse slope within 20 yards of the line, fired over 100 rounds in front of the riflemen's positions throughout a night of Chinese harassing and probing attacks. All of this fire was delivered at ranges below 200 yards and most of it at ranges from 50 to 100 yards.

In another instance the company dug in along a precipitous ridge which dropped off sharply in rocky crags to the front. Late in the afternoon, a North Korean with a burp gun crawled up through the trees to a point directly below the artillery OP and began firing into the line. He killed a Korean laborer on the ridge and wounded two machine gunners before accurate 60mm mortar fire drove him away. At this time the guns were set up on a lower

ridge running out to the rear of our position. Firing at a range of 250 yards the gunners dropped projectiles directly over the OP with only 20 to 30 yards to spare. It is this type of firing that establishes the 60mm mortar for what it is—a close-in, close defensive weapon that can be used with uncanny accuracy between hand grenade and 81mm mortar range.

The mortar is every bit as valuable on the offense though it must be used with more ingenuity and in a greater variety of situations. The mortar section in the attack will generally carry two tubes rather than three and a consequently greater load of ready ammunition.

Communications have been and will continue to be a problem until a reliable radio similar to the SCR-536 is developed. The best working procedure in Korea, we found, is for the mortar officer to travel behind the lead platoon with the company commander and one SCR-300. The section follows the company command group. When the mortar officer finds a location close enough to the objective to give accurate support he calls the section forward using radio communication to the company command group which also has a 300 radio. After the guns are set up, support is fired on the decision of the company commander as the situation develops. The essentials here are that the section be employed within effective firing range and that the mortar officer, alert for an opportunity to employ his weapon, be at the disposal of the company commander and have his phase of the operation well in mind at all times. Communications for calling fire depend principally on the terrain. Some mortar sections have found the 536 to be useful if given careful and patient attention, or the SCR-300 net between the CO and command group may be used.

In summary, I feel that despite difficulties of an unstable personnel situation and a communications problem which is often unsatisfactory, the 60mm mortar section can very definitely live up to its press notices. The essential elements are: first, an adequately trained section, and second, and of equal importance, the confidence of the company the section supports. These essentials, with an officer alert for the opportunity to employ them, will make any 60mm mortar section pull more than its weight in a rifle company.

USMC

# KOREA AWARDS



## Navy Cross

MSgt Dale L. Stropes, LtCol Allan Sutter, LtCol Robert D. Taplett, 2dLt Gerald G. Tidwell, SSgt Earnest J. Umbaugh, Cpl Jack V. Williams.

## Silver Star

Cpl David Andrews, Cpl Constantine Andriotis, Capt Anthony D. Anton, Sgt John W. Bauer, 2dLt James D. Beeler, 1stLt Van D. Bell, Jr., PFC Douglas V. Bird, PFC Stanley A. Blazewicz, PFC Richard A. Bock, Maj Roland E. Carey, 1stLt Francis B. Carlon, PFC Vincent J. Carney, Capt Arthur D. Challacombe, Jr., Cpl James V. Chapman, 1stLt William H. Dean, PFC Leo A. Delisle, 2dLt Edwin A. Deptula, Cpl Gerald L. Distel, 1stLt Richard L. Dively, Sgt Samuel G. Donnell, Cpl Lawrence W. McElrea, 2dLt Wendall C. Endsley, PFC Harold England, PFC Richard Frankville, Cpl Wayne B. Gillaspie, Sgt Frank A. Golemi, Capt Ray J. Graham, Cpl John Handwerker, Cpl George F. Harter, Maj Floyd C. Haxton, PFC John J. Hennessey, 1stLt Donald R. Jones, PFC Edward E. Jones, Capt Jack R. Jones, 1stLt Edward B. Keyes, Jr., Cpl Jack C. Kindig, Sgt Delbert W. Klein, Sr., 2dLt John H. Lilley, II, PFC William A. Lister, Capt Samuel F. Martin, Cpl David Martinez, 1stLt William J. Masterpool, 1stLt Emil J. Matas, PFC Ray L. Pace, Capt Clarence W. Parkins, PFC Homer Penn, 2dLt Fred G. Redmon.

Capt Walter L. Redmond, 2dLt Joseph D. Reed, Sgt Wayne B. Sager, Sgt Antonio D. Sanders, Sgt Thomas N. Toolen, Jr., 2dLt Nicholas M. Trapnell, PFC Henry G. Turner, Cpl Joe R. Varela, Cpl Joe N. Veach, 1stLt Gilbert M. Westa, Cpl Frank B. Westerfield.

## Legion of Merit

LtCol Allan Sutter, LtCol Carl A. Youngdale.

## Distinguished Flying Cross

Capt George Mottl, Capt Noel L. Neuman, 1stLt George A. Nicoud, Jr., Capt "C. D." Norman, Capt Charles Parker (4th), Capt Richard E. Patterson, Capt Walter H. Pratt, Jr., Capt James R. Rector (2d), Capt Gus Robinson, Capt Robert C. Robinson (2d), Capt John K. Sinderholm, Jr., Capt Edward D. Smith, Capt Eugene J. Smyth, Jr., (2d), MSgt James W. Snyder (2d), LtCol John W. Stage, 1stLt Eldon C. Stanton (3d), Maj Frank W. Stuhlman (2d), MSgt Andrew T. Taylor, Capt Gilbert R. Templeton.

## Bronze Star

Cpl Jack S. Biaza, SSgt Floyd G. Binkley, PFC James R. Bishop, PFC James E. Bissonette, Sgt Carol P. Bland, Sgt Gilbert J. Booth, Cpl Arthur J. Bower, Jr., PFC Morgan B.

Brainard III, 1stLt Joseph L. Brandon, Sgt Sylvan K. Branson, Cpl Joseph Breen, 1stLt Joseph M. Brent, PFC Clyde P. Coates, Jr., 1stLt Arthur Coburn II, Maj Gildo S. Codispoti, 1stLt Albert E. Coffeen, 2dLt Harold L. Coffman, Maj Thomas M. Coggins, Sgt Earl Collins, PFC Vernis L. Collins, 1stLt William H. Collins, Cpl Daniel E. Confalone, 1stLt Emmett J. Connors.

LtCol Raymond G. Davis, PFC Robert C. Davis, PFC Ralph M. D'Avolio, Capt Charles D. Dawkins, Jr., Sgt Edgar A. Day, MSgt William E. Day, PFC Frank M. DeGraffenreid, PFC Oscar DeLao, TSgt William B. Delaney, Cpl Chester L. DeLavern, Cpl Anthony J. DeMasi, PFC Marion F. Demming, Sgt Billie Dennis, 2dLt Paul E. Denny, Cpl Louis L. DePazzo, PFC Duray E. De Young, Maj John G. Dibble, PFC Charles D. Eaton, 2dLt Dean B. Ellison, Sgt Lincoln T. P. Engel, Sgt Richard L. Everett, 2dLt William P. Finch, PFC Dominic A. Fiorane, 1stLt Joseph R. Fisher, 1stLt Harold J. Fitzgeorge, 1stLt Thomas S. Fitzgerald, PFC James W. Flett, 2dLt Parker C. Folse, Jr., 1stLt William C. Foote, Sgt John H. Foster, Cpl Robert R. Foulds, 1stLt Robert A. Foyle, Cpl Graves Francis, Capt Eugene E. Frank, 1stLt Charles Friend III, PFC John H. Fries, Capt Varge G. Frisbie, PFC Lyman Fry, Cpl S. G. Fulmer, Cpl Harold Funmaker.

Sgt Gonzolo N. Garza, Cpl David C. Gaskin, 1stLt Brice E. Geisert, Sgt James L. Giblin, Cpl Richard A. Gilling, PFC Donald B. Glenn, PFC John R. Glover, Jr., PFC Jack C. Godsey, Sgt Cornelius J. Hamlin, Cpl Merle E. Harkcom, Cpl Edgar E. Harlin, Jr., Capt Lester G. Harmon, 1stLt Frank W. Harris III, PFC James A. Harris, Cpl John B. Harris, Sr., Capt Michael D. Harvath, Sgt Richard L. Hedgcock, Sgt James T. Johnson, Cpl Lawrence D. Johnson, Maj David Q. Jones, Maj Jack R. Jones, SSgt Robert W. Jones, Cpl Thomas R. Klisuric, Sgt Donald E. Koff, 1stLt Louis B. Kohler, LtCol Horace E. Knapp, Jr., 1stLt Joseph Koler, Jr., 1stLt Chester J. Krist, SSgt Robert E. Kruta, Capt Mason D. McQuiston, TSgt Paul E. Meister, Jr., Maj John F. Mentzer, Cpl Robert R. Mersch, Cpl Henry L. Miller, Maj Norman A. Miller, Jr., Cpl Orville L. Miller, Capt William T. Miller, 1stLt Neil B. Mills, PFC Donald W. Millsap, Sgt Edward H. Mitchell, Sgt William Moll, Sgt William R. Moore, Maj Emile P. Moses, PFC Dale R. Mott, 1stLt Franklin J. Murphy, Jr., Cpl Joseph A. Musciano, Sgt James R. Myers.

1stLt David D. Peppin, Cpl Victor A. Perry, Capt Douglas D. Petty, Maj William T. Phillips, Cpl Lonnie D. L. Pilkington, PFC John C. Poindexter, CWO James C. Price, SSgt John Semo, Jr., 1stLt "J. D." Sharp, Cpl Eugene F. Sheehan, Capt Donald L. Shenaut, Capt Duane W. Skow, Sgt William Slighton, Sgt David N. Smith, Capt Jack A. Smith, Cpl Walter J. Smyk, Jr., Cpl Bernard M. Soloman, 1stLt Melvin D. Sonneborn, CWO James F. Sparrow, PFC Carl R. Spear, Cpl Wallace J. Spillane, PFC Harry S. Stassinis, PFC James D. Stewart, Cpl Richard A. Suarez, Sgt Leander R. Swasey, Jr., Cpl Wilbur J. Switzer, Sgt Robert R. Sypniewski, SSgt James R. Tull, and Sgt William M. Turner.



# The Eagle

☛ SOMEWHERE ABOUT THE YEAR 1624 A CERTAIN Francis Quarles, writing with a far greater sense of realism than is given to most men who express themselves in verse, penned the following lines:

"God and the soldier\* we alike adore,  
When on the brink of ruin, not before;  
After deliverance both are alike requited,  
Our God forgotten and our soldiers slighted."

No terms could better epitomise the general attitude of the civilian towards the members of the Fighting Forces which has characterised the English-speaking peoples, on both sides of the Atlantic, for something over 350 years.

In time of war, of course, the soldier's stock is temporarily in the ascendant; patriotism, for so many, being little more than a sense of alarm as to what may happen to them during the period of conflict. Between such

craven-hearts and threatening danger only the fighting-man can interpose a protective sword and buckler; and the tribute paid by the preserved to his saviour, for the time being, falls little short of the hysterical. But of all human emotions, that of gratitude is the one most speedily exhausted. Often enough it has fallen away to nothing long before the conflict itself is anywhere near over.

At the outbreak of the Seven Years' War (1756-1763), for example, the popularity of both soldier and sailor was universal; they were all that stood between a trembling population and the 50,000 Gallic troops concentrated in the channel ports, with the obvious intention of launching themselves across the narrow seas that separated them from England. But as the menace of invasion diminished and the scene of war shifted to the traditional cockpit on the mainland of Europe, indifference speedily replaced erstwhile sympathy and under-

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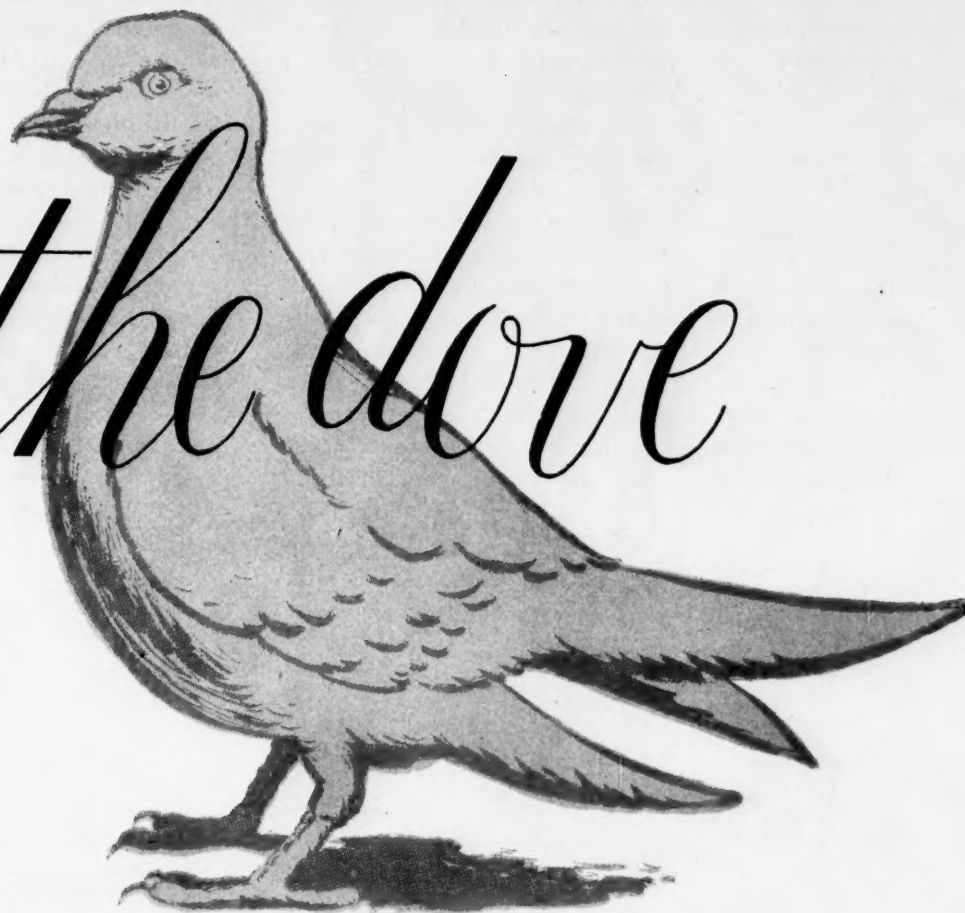
**By Reginald Hargreaves**

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\* In this context—as throughout this article—the word "soldier" is used generically, and must be taken to include "Leatherneck," "white-cap", and indeed any member of the Fighting Forces.



# and the dove



standing, a sort of fretful boredom usurped the place of admiration, and the soldier swiftly found himself the victim of a public neglect that only private effort on the part of interested individuals served, in part, to remedy.

A similar lack of support and indifference to the fighting-man's welfare characterised the civil population during the last phase of the American War of Independence. Writing to Gen Harry Knox, the indignant Col Robert Jackson justifiably complained, "... a uniform jacket and a cockade are sufficient reasons why they will not assist or relieve them from their distress."

As is well known, at one period of the conflict so inadequate had been the arrangements made by the civil authorities to maintain their field army, and so poor the

response of the individual citizen in cash or kind, that Washington was forced to pledge his own private credit to furnish his men with subsistence and a token payment on their long overdue wages.

The Duke of Wellington had much the same trouble throughout the lengthy Peninsular campaign, his men's pay rarely being less than two months in arrear; and if "beef, biscuit and bullocks to draw 'em" rarely failed to put in an appearance, that fact is less attributable to the interest in the troops' well-being exhibited by the people of the homeland, than to the superhuman efforts made by their commander to keep those under him reasonably well supplied.

But it was not always thus.

The medieval soldier, called up for a campaign that either paid for itself—and handsomely rewarded its participants during its progress—or came incontinently to an end, enjoyed great popularity amongst the stay-at-homes; nor is the reason far to seek. In those days, warlike expeditions were generally of short duration, and the soldiery who departed upon them for the most part

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**The man in mufti and the man in uniform  
have a single aim — peace — that should  
help them understand each other better**

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soon returned to take up their daily life as part of the general community, their welcome assured on the score of the valuable booty they had acquired during the course of their service. As a contemporary chronicler informs us, for example, after the return of the English from the successful campaign which ended in the battle of Crécy (August, 1346), "cloth of gold and silver had been brought home in such quantity that women of the common sort not only wore it, against all decency and custom, but made sale of it, and flourished exceedingly on the riches gained thereby." Many a new milch cow found its way into the byre which had been bought for a handful of ransom money; and the family whose purchase of a couple more fat swine or an extra gaggle of geese had been financed by their soldier-son's "pickings" from overseas, were unlikely to complain about the nature of his calling.

**"Glory is the soldier's prize"**



It is in post-Reformation days that we come across the first instances of that neglect and contempt of the fighting-man's welfare, which was presently to become widespread and develop into a national attribute. After the fall of Havre (A.D. 1562) and the discharge of the bulk of those survivors who had managed to make their way back to England, the scandal of the maimed, limbless, and out-of-work veterans, begging about the London streets, became so noxious that Queen Elizabeth, in a right royal rage, gave peremptory orders that something should be done at once to remedy their miserable plight. But although the inevitable committee was formed and sundry reassuring instructions were issued to the Lords Lieutenant and Magistrates, remarkably little was actually accomplished on the destitute men's behalf. For as a contemporary writer sourly noted down, "Such as have followed the wars are despised of every

man until a very pinch of need doth come." In effect, a more understanding and considerate attitude towards the soldier had to await the general alarm and despondency which accompanied the next scare of war!

But it was subsequent to the defeat of the Royalists in the civil war between King and Parliament, when England fell under the grim thrall of the Lord Protector, Oliver Cromwell, that the civilian acquired that dread and loathing of the soldier which was, alas, to harden into an inalienable prejudice, a fixed habit of mind. Not that the ordinary man in the street, of the period in question, was without considerable excuse for his fear and loathing of the man in the red coat. For never can a civil population have been inflicted with a more gloomy and restrictive regime, nor one that repressed more rigorously the easygoing ways in which the ordinary individual had been brought up and to which he had grown accustomed. And in almost every instance the instruments of oppression—for

want of any other variety of law-enforcement official — were soldiers. The whole country was divided into 11 military districts under the rule of Major-Generals; and to his ungrateful role of informer and *agent provocateur* the unfortunate soldier was forced to add that of vigilante, whose business it was to ensure that a thousand pettifogging restrictions were faithfully observed.

Furthermore, in the event of large-scale civil disturbances, in the absence of anything in the nature of a police force the authorities had no option but to call on the military for the restoration of law and order. Thus in 1780, at the time of the widespread Gordon riots, with London blazing furiously in half a dozen places, the Bank of England under siege from a drink-crazed mob, and the felons at Newgate Prison released by fellow criminals to join in the general orgy of pillage and destruction, the King had no option but to order the Brigade of Guards on to the streets to deal with a situation which was rapidly getting out of hand.

This absence of a civil law-enforcement corps had much to do with the trouble in Boston which led up to that profoundly regrettable incident of May 4th, 1770, involving the death of four men and the injury of a further seven. Had there been a strong police force in existence at the time, it would have served as a buffer between the military and an excited mob bent on mischief; and history would have been spared that Boston massacre which, until quite recent years, was fruitful in nothing but painful recrimination and even more dangerous misunderstanding.

That the American leaders who had so vehemently deplored the employment of the British military to try and keep the peace in Boston were, in less than a decade, compelled to deploy their own troops for the suppression of what was known as Shay's Rebellion, is just one of those ironies of history with which the story of mankind is so replete. That the reaction of the civil population was similar in both instances is no more than is to



"Looked down upon . . . and generally resented"

be expected, having regard for the fact that it derived from that anti-militarist Puritan stock to whom the man in the uniform coat—irrespective of his land of birth—has always been unqualified anathema.

The Peninsular War terminated in 1814; and the *embusqués* and dandies of Bond Street and the St. James's Street clubs hastened to wash that artificial tan from their faces and to unship those swashbuckling brass spurs from the heels of their boots, with which they had sought to simulate that martial appearance which temporarily had achieved fashionable favour. The Waterloo campaign was of far too short duration to restore the military to general popularity; and thereafter the dove of peace was in the ascendant, and the eagle's wings could moult for all it mattered to society in general.

In the United States, the enthusiasm aroused by the war of 1812 and the successful defense of New Orleans had swiftly evaporated. For a population of over seven and a quarter millions, distributed over an enormous territory, an army reduced to a mere 10,000 of all ranks





"Something . . . to remedy their miserable plight"

could rate as no more than a token force, scattered as it was over innumerable small posts and entirely incapable of speedy concentration. Like the ruthlessly pared-down British forces, dotted about in numberless little garrisons, it was, perhaps, less to be regarded as a live, integrated field army than as a means—should the necessity arise—of quelling rebellion and enforcing civil law; about the most repugnant and ungrateful task with which the military can be confronted.

Then, in 1829, there occurred an event of the very greatest significance—the establishment by Sir Robert Peel of a body of civil law-enforcement officers in the shape of the metropolitan police.

Power to belabour all and sundry with the flat of his sabre.

It had been upon Wellington's urgent suggestion, therefore, that a police force had been organized for the preservation of public order; a force which was responsible to and administered by, not the War Office, but the Home Department. By this means, as the Duke hoped and believed, the soldier would be relieved from the distasteful obligation—save in the extremest emergency—of coming to the support of the civil authorities, and thus freed from the odium which once again had attached itself to his name and calling.

But, alas, the Duke had entirely failed to take into

From 1811 onwards Britain had been greatly disturbed by the rioting of the "Luddites," intent on wrecking the newly introduced industrial machinery which, as they believed, threatened to lessen the employment of labour. These disturbances, constantly in agitation over a wide area, had invariably called for the intervention of the military; and the old hatred of the soldier once more flamed into being, more virulent and wide-spread than ever before. For the man who has been banged over the head by a blue-jacketed dragoon on Friday will scarcely be in the mood to stand a drink to a red-coated infantryman on the following Monday!

In effect, it had long been the belief of the widely-experienced Duke of Wellington that the army which has forfeited the confidence and goodwill of the general public by intervening in a specifically civil dispute, can never prove a fully effective instrument in time of war. For to give of his best, as the Duke rightly believed, the soldier must have the nation right behind him; a condition of things unlikely to be achieved if the man in the uniform coat is liable to be called upon by the Civil

account the tenacity with which a long-established tradition persists. Despite the relegation of his more invidious duties to the police, the soldier was still regarded by the vast mass of the people at best as a costly incubus on peace-time economy, at worst as a brutish and bloody-handed instrument of tyranny.

✿ VERY MUCH THE SAME CAN BE SAID for conditions in the United States, where a police force had also been introduced for the support of the civil power. For in a Republic wherein—if it may so be put—the dollar was the uncrowned king, the man who deliberately elected to follow the non-profit-making profession of arms inevitably incurred the contempt of the individual determined to lift himself up by his own bootstraps to the highest level of affluence his talents and energy could achieve for him. A hard core of born soldiers, true descendants of the hardy, adventurous pioneer stock of earlier days, manfully held together a tiny army, generally recruited from much the same sort of material as found its way into the standing force in England. And in both countries the men of the Armed Forces were treated almost as a race apart, looked down upon with a sort of impatient scorn, and generally resented as representing a form of expenditure upon which there appeared to be remarkably small return.

For it is doubtful if this animosity against the soldier was any more confined to one class of the community in the United States than it was in England; where only with the old aristocratic families—which furnished so much of the officer material—was the soldier, of all ranks, regarded with real sympathy and understanding. Elsewhere, the commercial classes and a large, immensely privileged industrial population very largely left the manning of the Fighting Forces to what they were pleased to regard as social misfits, for whom they nurtured nothing but derisive and unconcealed dislike.

✿ OLD PREJUDICES AND AVERSIONS die extremely hard, but now, in the present uneasy posture of the world, this is a state of things that simply will not do. Somehow, by some means, the unreflective anti-militarist must be persuaded to give his (or her) consideration to one or two points that hitherto may very well have escaped his (or her) attention.

First and foremost, let it be affirmed with all possible emphasis that soldiers themselves are *not* warmongers. They simply fight to restore a condition of peace which has broken down into strife through the mishandling of a given situation by the government-in-power. Or as Field Marshal Allenby once tersely put it, "Soldiers don't start wars; politicians start wars; soldiers end 'em." Exactly. The soldier is not the enemy of peace

but its guardian; and would no more think of trying to start a war for the fun of fighting it than a fireman would start a conflagration for the joy of putting it out, or a policeman start a riot for the delight of quelling it. On the contrary, the soldier is forever preparing himself for an enormity whose incidence no one would deplore more sincerely than himself. Indeed, the soldier has a vested interest in peace, since he is only too aware of the fact that he himself is likely to be amongst the first of war's chosen victims. Which means, in effect, that the soldier is a member of perhaps the only calling that prefers rehearsal to performance!

✿ THE SOLDIER IS EQUALLY aware that weakness is an open invitation to aggression; that the calm display of great strength will very often obviate the necessity for its employment. Save in actual time of war the citizen has yet to learn the soundness of the Biblical apothegm, "When a strong man armed keepeth his palace, his goods are at peace." In which context he may also be reminded that a pennyworth of pre-war preparation is worth a hundred pounds' worth of post-hostilities improvisation.

For the rest, it should never be forgotten that the soldier is also a citizen; but a citizen with very special duties and particularly onerous—and dangerous!—responsibilities. He stands for the preservation of tranquillity within and for defence from assault from without. The better to enable him to fulfil these grave obligations, his whole training is designed to cultivate in him the highest standard of personal behaviour and that integrity of character which adds to technical skill and physical courage the essential factor of reliability.

The soldier fights for more than pay; he fights for an intangible from which the profit is far less likely to go into his own pocket than into the nation's.

"Glory is the soldier's prize;

The soldier's wage is honour."

Not only his own personal honour, but that of his country; over whose interests he stands eternally on guard—those interests of the ordinary citizen of which the aggregate is what we mean by nationhood.

Finally, let it never be forgotten that

"Nothing has ever been built until the soldier has made safe the field where the building shall be built; and the soldier is the scaffolding until it has been built."\*

✿ ALLOWING FOR HIS SUPERIOR STRENGTH, in what vital particular does the eagle differ from the dove? Surely, in all that really matters, they are birds of a feather? Then why in the name of high heaven do they flap and chipper at each other? For despite their difference in plumage, they really do possess such a tremendous lot in common.

USMC

\* Eric Linklater.

# In Brief

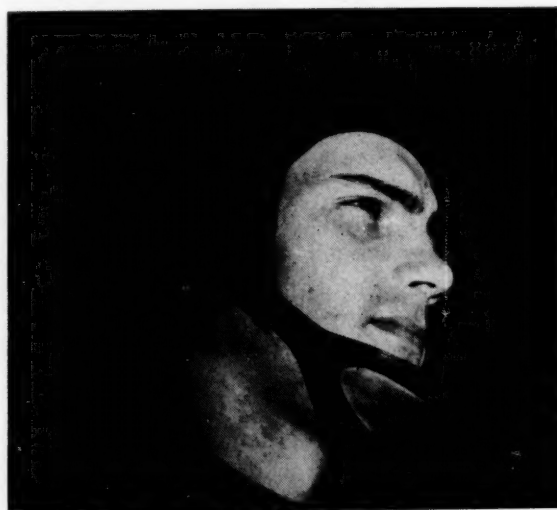


*His Excellency, Afranio de Mello Franco (above), Brazilian minister to the U.S., pins the red and white streamers of the Order of Naval Merit on the Marine Corps colors in impressive ceremonies recently at Marine Barracks, Washington. Brazil's highest naval award was presented to the Marine Corps in recognition of its 176 years of distinguished service and as a token of the deep friendship between the two countries, allies in two World Wars. Assisting His Excellency is VAdm Sylvio de Camargo, Commandant of the Brazilian Marine Corps. Participating in the ceremony were, left to right, Gen Lemuel C. Shepherd, Jr., Commandant of the Marine Corps; VAdm Salalino Coelho, Brazilian naval attache, and Col Jack P. Juhan, Commanding Officer of Marine Barracks.*

*The Marine Corps is now inviting applications from enlisted personnel on active duty for assignment to flight training as naval aviation cadets. Marines interested must apply through their commanding officers, using Joint Letter 52-164, Navy Bulletin of 31 March 1952, as reference.*

*An electronically-operated rifle range was tested for the first time recently by the Army at Fort Benning, Ga., and may be the modern replacement for the traditional "men in the butts." The device runs up 36 targets which fall electrically when a bullet pierces electrified screen inside the target.*

*A lightweight radar set that maps every detail of terrain and weather obstacles up to 200 miles in front of an aircraft is now in production for the Navy and Air Force. The unit already has been installed on President Truman's *Independence*.*



*Above is the lightweight new helmet being tested by the Army to replace the present model. Made of aluminum with a plastic liner, it is patterned after the German helmet. The Marine Corps is testing a similar-shaped helmet at Camp Lejeune, but its materials have not yet been revealed.*



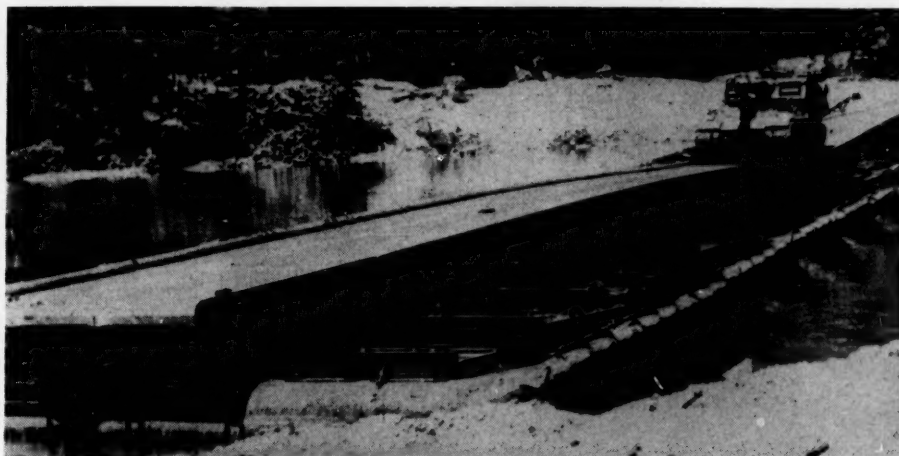


*The long-awaited M-47 medium tank, shown above on the proving ground, is now in production for U.S. forces at home and abroad. Outwardly it resembles the Patton tank, but far outstrips it in speed, armor, maneuverability, and firepower. Weighing 48 tons, the M-47 carries a crew of five.*

*The British Army now has a fighting strength of 10 divisions, a 30 per cent increase in the last year. In reserve are about 12 auxiliary divisions composed of Territorial units equivalent to the U.S. National Guard.*

*The United States is financing a \$28,500,000 pipeline to carry gasoline from the port of Casablanca to five U.S. air bases in Morocco.*

*A new series of bridges (right) for field army use is in final development at Fort Belvoir. The series includes an aluminum light tactical bridge and an aluminum foot-bridge. All are wider, easier and faster to erect, and capable of heavier loads than present models.*

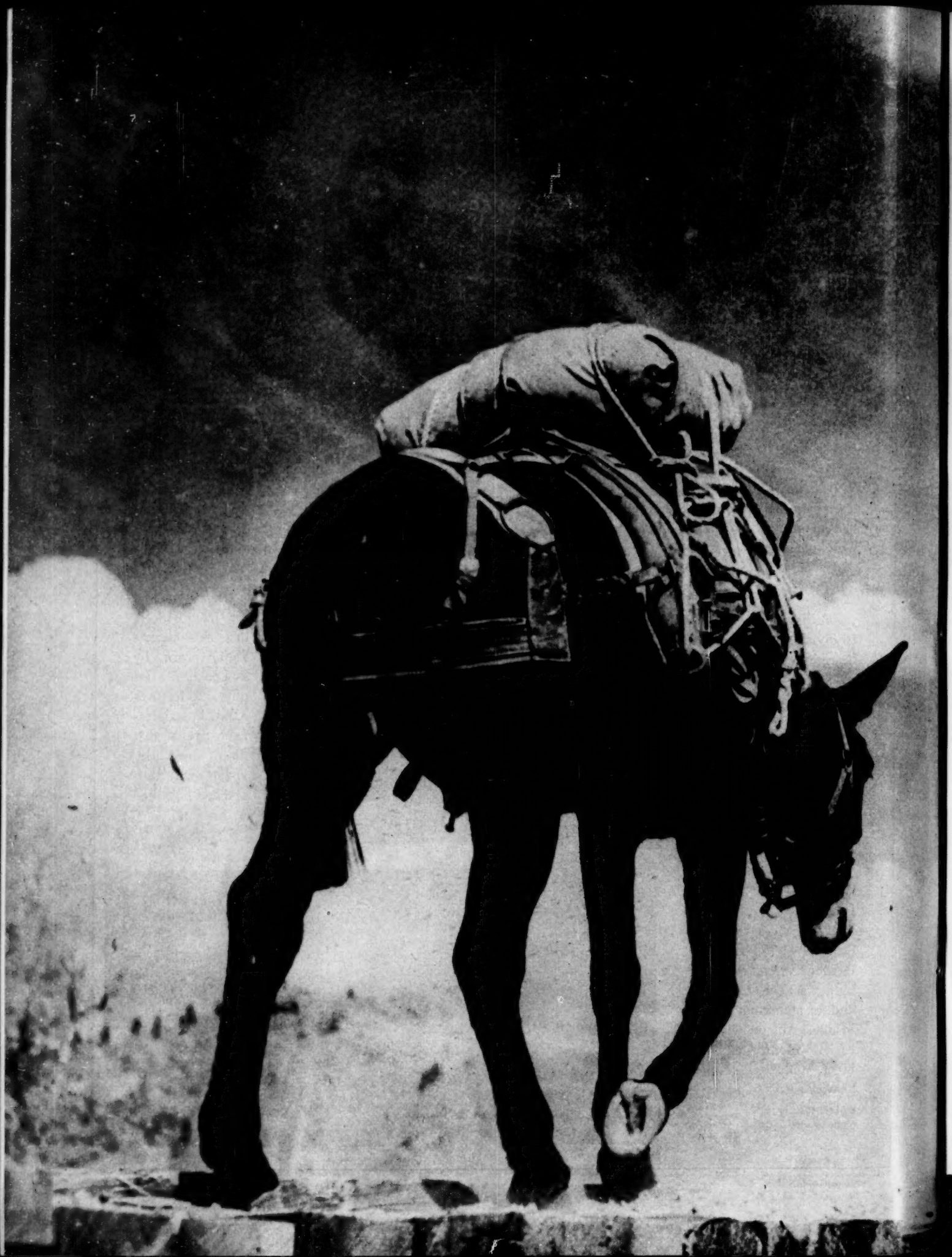


*A new and powerful antisubmarine weapon has just been disclosed by the British Admiralty and now is carried by most British destroyers and frigates. Known as "the squid," the device is a many-barrelled mortar which fires depth charges ahead of the warship. The charges are underwater bombs able to crack the toughest submarine hull yet made.*

*Headquarters has announced that Marine reservists who were on extended active duty since 30 June 1950 may resign or be discharged from the Corps at their request if they also served prior to 24 June 1948 and are now on inactive duty. Many such officers and men "have been handicapped in commercial life because of their reserve affiliation," the announcement states.*



*High fashion for jet pilots is this new helmet (left) worn by a Lockheed test pilot. It features a tinted plexiglass face-piece that filters out ultra-violet sun rays and can be raised or lowered.*



# Saddle Up!

By LtCol Harold L. Oppenheimer

IN 1940 THE CHIEF OF STAFF OF THE ARMY, SHORTLY followed by the Commandant of the Marine Corps, decided to get rid of the bulk of the mounted cavalry, pack artillery, and pack transportation units in the armed services. Factors influencing the decision at that time were the following:

1) Modern American industry had vastly lowered the cost and increased the efficiency of motor transportation.

2) It was contemplated that American forces would largely operate in terrain that four-wheeled drive or tracked vehicles could negotiate and that even if at first they couldn't, that modern engineer construction machinery would soon be able to prepare roads.

3) The inescapable fact that horses and mules have to be fed even when they are not in use, but vehicles don't.

4) The vast increase in "maintenance" personnel relative to the pay load which animals required over vehicles. In other words, there would be considerably more over-

head in feeding, doctoring, and herding 10 mules, than in driving and maintaining one 2½-ton truck.

5) Again in terms of pay load, the vastly increased problems of a remount service, veterinary service, and procurement program over those of an automotive assembly line.

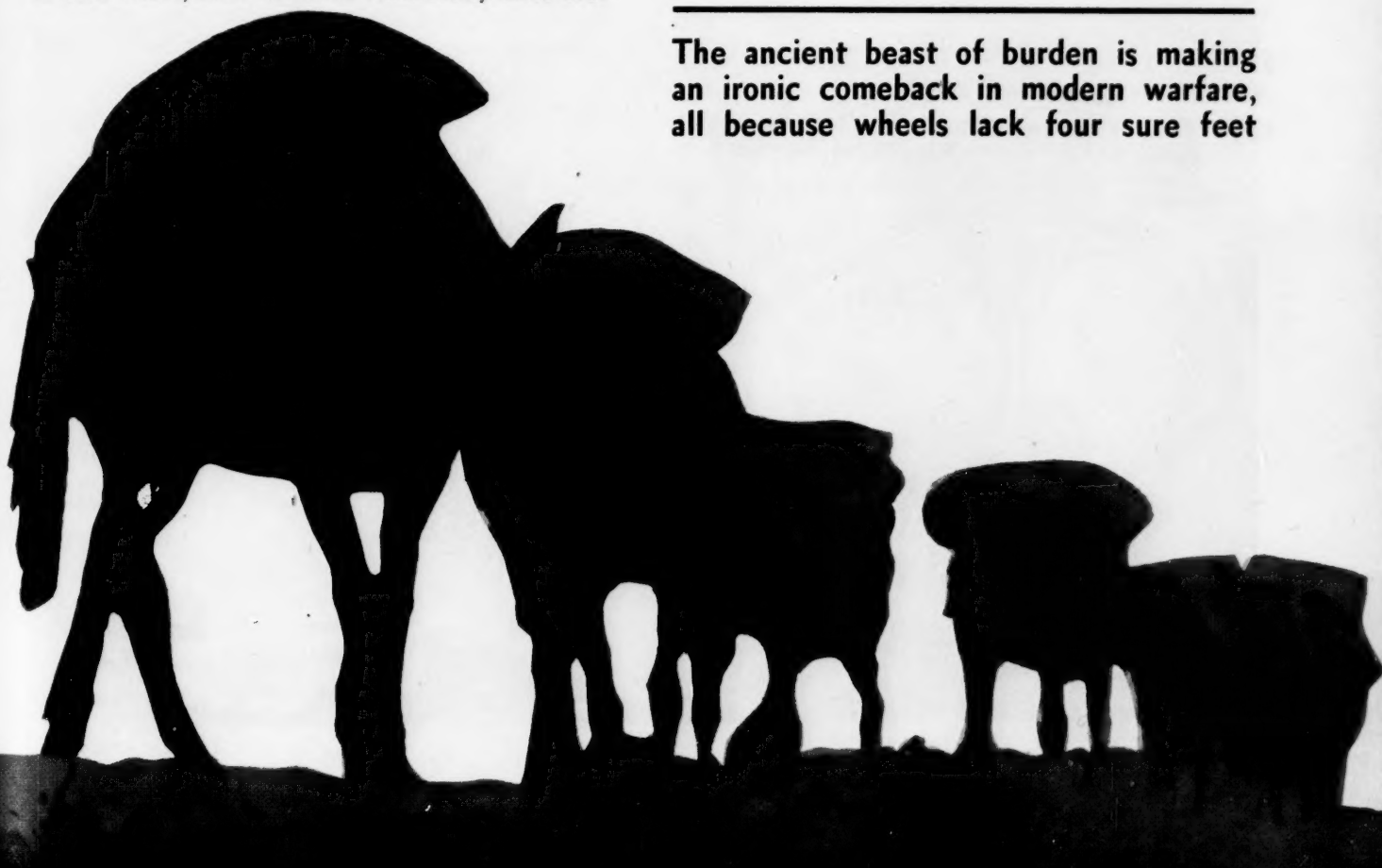
However, the Burmese and Italian campaigns of WW II and the present war in Korea brought the following points to our attention:

1) There are still many areas of the world, where campaigns have to be fought, where supply paths are too steep, too narrow, or, in some seasons, too muddy for motor vehicles.

2) In some areas of the world there are considerable supplies of pack animals available locally, either from the civilian inhabitants or by capture from the enemy. In these cases, the problems of procurement and shipping are largely eliminated and that of "maintenance" much simplified.

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The ancient beast of burden is making an ironic comeback in modern warfare, all because wheels lack four sure feet





3) In combat with an enemy who has air superiority or even a substantial air capability, movement or supply by motor vehicle and road may be severely limited or eliminated.

4) Regardless of our own use or non-use of animal transport, we know that Russian, Siberian, and Chinese units use a substantial number of entirely mounted units plus animal transport as a major supplementary method of supply for regular units. In this respect it is incumbent on our operations and intelligence officers at all echelons to understand the enemy's capability in this particular.

In this presentation we shall break our subject into the following sections:

- I. The Logistics of Animal Transportation. (Mules)
- II. Methods of Operating Mule Trains in Mountains.
- III. Recent Combat Use of Animal Transport.
- IV. Use of Camels, Elephants, Llamas, and Sled Dogs.
- V. Summary.

#### I. The Logistics of Animal Transportation (Mule)

Over terrain which is not mountainous, the pack mule may be expected to travel 20 miles or more per day carrying 250 pounds of pay load. (Pay load does not include weight of the saddle and its accessories.) As

long as the mule receives proper care and feed, this expectancy of his capability continues indefinitely. In mountainous terrain, the mule is capable of carrying 250 pounds, but the distance should be reduced to 10 to 15 miles per day. Loaded pack mules usually are able to travel anywhere a man can walk without the use of his hands for support.

The rate of march of a pack train (herded) is four and a half to five miles per hour. Mules marched at this rate soon will acquire the ambling gait which is smoother than a walk and causes a minimum of rocking motion to the load.

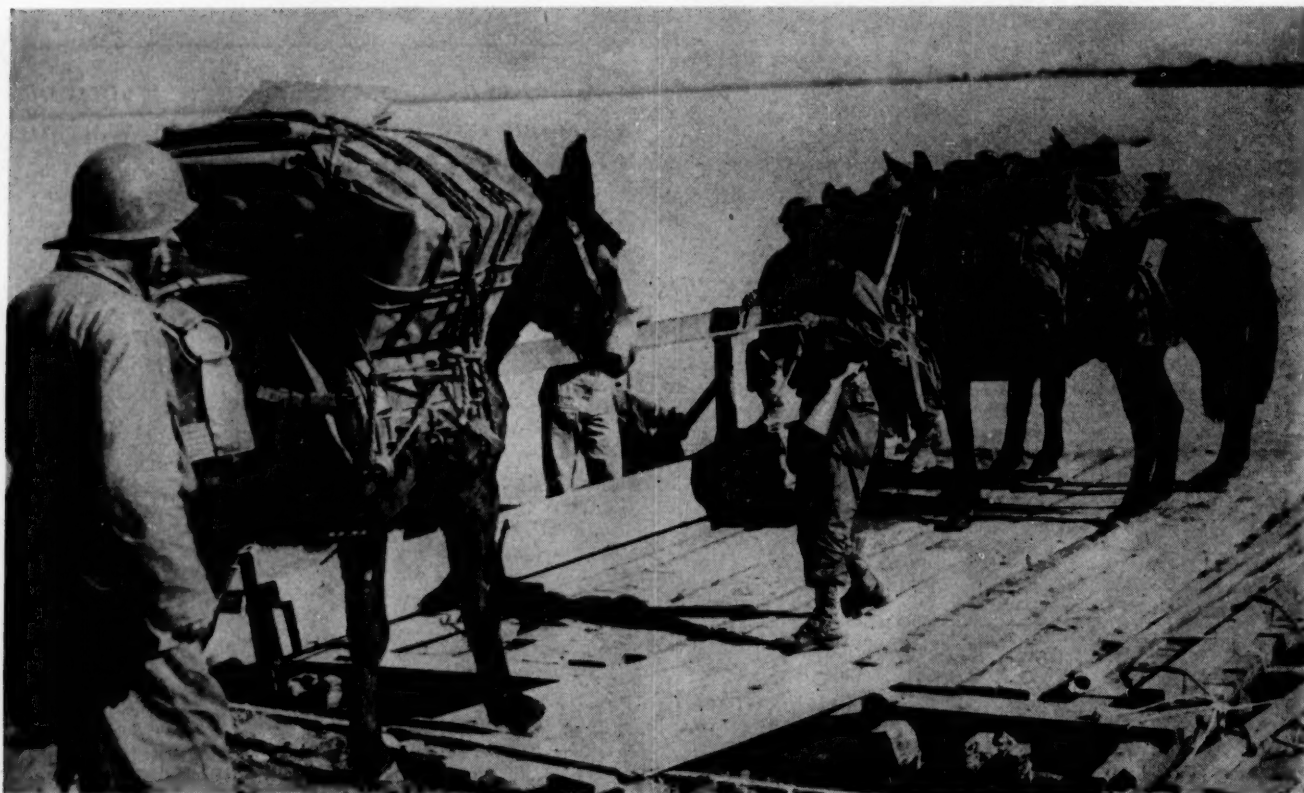
In using pack transport with individually led mules the rate of march is three and a half to four miles per hour which allows the mules to take their natural gait.

The field ration prescribed for animals is as follows:

	Small Horses	Light Horses	Heavy Horses	Mules
Grain	9 lbs.	12	14	10
Hay	14 lbs.	14	16	14

In garrison the ration of grain can be cut down some, but there has to be an addition of about five pounds of straw per animal.

Mules were reluctant but indispensable in the tough Burma campaign



Under average conditions animals require eight gallons of water per day. Excessive heat and heavy work will double this.

As an example of the amount of personnel necessary to handle a large scale animal movement we shall use the movement of 900 mules over 750 miles from Myitkyima, Burma, to Kunming, China starting on May 26, 1945. Part of the trip utilized short cuts over difficult mountain trails; part was on the Burma Road.

"Personnel included two officers and 62 enlisted men then on duty with mules in Myitkyima, plus six officers and 130 enlisted men flown from Kunming to Myitkyima for this mission. In addition, 25 enlisted men were detailed from the 13th Medical Bn. This made a total initial strength of 240 officers and men.

"Preparations were hasty, as we were given the first alert on May 15th. All mules had to be shod, equipment had to be drawn and fitted, and personnel organized for the movement by May 24th. The animals were broken down into three serials of 300 each, to travel one day apart. About six officers and enlisted men were reserved for overhead supply and administration; remaining personnel were divided equally among the three serials. Each serial had one veterinary officer and three enlisted medical technicians."<sup>1</sup>

## II. Methods of Operating Mule Trains in Mountains

In general, there are two methods of handling large scale movements by pack transportation; (1) Herding, and (2) Individually leading.

In herding, the pack mules are trained to follow in single file, without crowding, the sound of the bell carried by a lead mare. The bell mare always should be led with reins and bit. On trails, packers ride in the column, distributed so that each can watch about five pack mules. In rough country, several packers ride far enough in advance of the head of the column to enable them to station themselves at dangerous places. This is a precaution to keep the mules on the trail and prevent accidents. The

<sup>1</sup> The Cavalry Journal, March-April 1946, *Mules for China*, Capt John A. Rand, F.A., p. 57.



In Italy, mountain troops used donkeys to supply a snowbound platoon

mule loaded with pioneer tools should be led at the head of the train.

In pack artillery, infantry, engineer, and certain other units, pack animals are usually led by dismounted drivers. When pack animals are led, they should be allowed freedom of movement and balance and, at the same time, controlled sufficiently to keep them in their proper places in the column. When animals are led up steep slopes or

## Desert patrols made good use of donkeys

British Information Service





Sovfoto

### The sturdy Mongolian pony is a favorite with Soviet soldiers on the Ukranian front

over very rugged terrain, they are given their heads as much as possible so as to allow them to seek their own footing and maintain their balance. An allowance of one yard of loose rein is the normal minimum. If the terrain is very rough or steep and the driver should fall behind, it is better to drop the reins and let the animal go; he is caught as soon as the obstacle has been passed.

### III. Recent Combat Uses of Animal Transport

In the various official and unofficial wars and actions of the last 10 years a surprising number of units used animal transport. Here are just a few of them:

"From February 1 to June 1, 1944, the 5307th Prov Inf Regt, a part of Merrill's Marauders, marched 700 miles through the jungle terrain of India and Burma. Heavy weapons, radios, and supplies from air drops were transported by pack animals."<sup>2</sup> At the beginning of the operation there were 340 horses from the 112th Cavalry in New Caledonia and 360 mules which had been trained as pack animals in the States.

On August 19, 1943, LtGen Lucian K. Truscott, Jr., then commander of the 3d Inf Div at San Stefano, Sicily, ordered all the mules and horses that had been unofficially used by the units in the previous mountain operations assembled. Regular pack units were then organized and were supplemented with animals from the Italian cavalry stables in Palermo. In addition, a reconnaissance troop of three platoons and a weapons platoon were organized.

The first reconnaissance mission was performed on

the mainland on September 21: "Reconnoiter roads, lanes, and draws approaching Acerno, Italy."

"Mines, blown bridges, and rugged terrain slowed the advance of the infantry, but proved no barrier to the mounted troop which was able to cut across country at will. The main road, for instance, was so heavily mined for three and a half miles that no vehicle could travel until engineers cleared the road, an operation which lasted four hours. All avenues were reconnoitered without mishap. Information regarding roads, mountain passes and terrain, and absence of enemy was sent to the division."<sup>3</sup>

Again in the vicinity of San Pietro: "The first shot was fired at 0645 hours. About noon, the troop passed from the defense to the attack, and by 1500 hours had captured the hill. The score was 65 enemy killed, 29 wounded, and 11 prisoners 'in one piece.' Our losses were 11 killed and 14 wounded, two of whom died. Animal losses were 31 horses and mules."<sup>4</sup>

"During the recent war, on December 31, 1943, the animal strength reached its peak—60,170 animals. With cessation of hostilities in August 1945, the horse and mule strength of the entire Army was 41,600, of which more than 17,000 were in overseas theaters."<sup>5</sup>

The Russians during WW II and today use animal transport as a major means of supply, not only in mountainous terrain, but even on the roadless steppes. In addition to logistic use, they also have mounted cavalry in combat divisions.

<sup>2</sup>The Cavalry Journal, May-June 1946, *Horses Were Used*, p. 31.

<sup>4</sup>Idem. p. 32.

<sup>5</sup>The Armored Cavalry Journal, Nov-Dec 1946, *Veterinary Activities in WW II*, LtCol William E. Jennings, V.C. p. 42.

<sup>3</sup>The Cavalry Journal, Jan-Feb 1946, *Jungle Pack Operations*, p. 19.



"The Russians organized their cavalry divisions with four mounted regiments (five saber squadrons, one machine gun squadron, and one light gun battery); a tank unit (three squadrons); a signal unit (two squadrons); a squadron of engineers; and 48 tachanks (small snowmobiles with machine guns). Total: 3,700 men, 3,553 horses, and 42 tanks.

"Later, these divisions were reinforced with self propelled artillery units and an increased number of tanks, according to their missions. The Russians are calculated to have had about 30 such divisions or a total of approximately 100,000 men."<sup>6</sup>

In the spring of 1944, the French Moroccan 4th Mountain Div, reinforced with cavalry, was almost completely equipped with pack transportation and made into a mountain corps. On 11 May, the attack began toward Pico and Lenola. The attack was extremely successful and over terrain which the Germans thought too mountainous for successful operations. The Germans afterward stated: "We must bear in mind that French troops are able to go anywhere pack mules can go and there is always the possibility of a deep outflanking maneuver in terrain that is normally regarded as impassable."<sup>7</sup>

In all mountain fighting the French customarily made use of both pack transport supply companies and pack

<sup>6</sup> *Ejercite* (Spain) November 1946, LtCol A. Artalejo Campos. Translated and digested by Military Review, Aug 1947, p. 89.

<sup>7</sup> *Revue Historique de l'Armee* (France) July 1946, *The French in the Italian Campaign*, Capt Bessiere. Translated by Military Review, June 1947, p. 77.

**Hard-riding Cossacks always have been an important part of the Russian Army**



Sovfoto

**Horse-drawn machine gun carts are a feature in many USSR combat units**

mule evacuation units equipped with specially designed litters.

#### **IV. The Use of Camels, Elephants, Llamas, and Dog Teams**

From ancient times down to today, there have been a considerable number of animals for transport in addition to horses and mules. Many are peculiarly adapted for particular types of terrain. To name just a few we have: reindeer, yaks, oxen, water buffalo, alpacas, camels, elephants, llamas, and sled dogs.

The Arabian camel will carry loads of 500 to 1000 lbs 25 miles per day for three days without drinking. The soft, wide-spread pads of the feet are admirably adapted for walking on sand. Camel corps units have been used by Egypt, France, and Britain.<sup>8</sup> Camel transport has been reported as being used by some Chinese units in the present Korean campaign.

The elephant has been used in warfare back to times of great antiquity. They were even imported by Hannibal for use in his campaigns against Rome. In modern times they are outmoded because of the difficulty of procurement (few are bred in captivity), vulnerability to modern weapons, susceptibility to sickness and changes of climate, and the difficulty of handling and shipping.

The llamas has been domesticated and used as a beast

<sup>8</sup> *Encyclopedia Britannica*, 1929, *Camel*.

Sovfoto





Overland travel in the arctic depends largely on the dog sled

of burden by the Andean Indians of South America for over 1000 years. Contrary to popular supposition, it can not carry a load over 100 pounds and is never used as a riding animal. In the vicinity of Bolivia, where I was in charge of an anthropological expedition in 1940, the average load used on long distance travel seemed to run from 30 to 50 pounds. To my mind the chief advantageous characteristics of this animal for transport purposes are three: (1) They are quite docile and two or three men seemed able to handle a train of 30 or 40

the front and the remaining dogs hitched in tandem pairs. The standard method of use in the Army quartermaster dog team platoon is a nine-dog team.<sup>9</sup>

The Quartermaster Dog Plat consists of a platoon headquarters and two sections of 10 teams each. The personnel consist of one officer commanding, one officer veterinary, and 59 enlisted men.

The mission of the quartermaster dog team platoon is "to provide a means of transporting cargo either by sled or pack in arctic and sub-arctic areas, particularly where

routes to be traversed include pack ice on the sea or crevassed and mountainous areas. This mission includes airplane salvage operations, rescue missions, transporting all classes of supplies, and messenger service."<sup>10</sup>

A sledge team, heavy, with nine dogs operating on the trail, can move 630 pounds of cargo per day at a rate of two and a half miles per hour. A sledge team, light, with nine dogs, can move 450 pounds per day at a rate of five miles per hour. A pack

The pack-mule litter moved wounded soldiers in New Guinea



<sup>9</sup>Lecture *Sled Dogs and Mush-ing*, 24 Feb 1951, Capt Howell, Army Arctic Indoctrination School, Big Delta, Alaska.

<sup>10</sup>T/O and E, No. 10, Department of the Army, 1949.



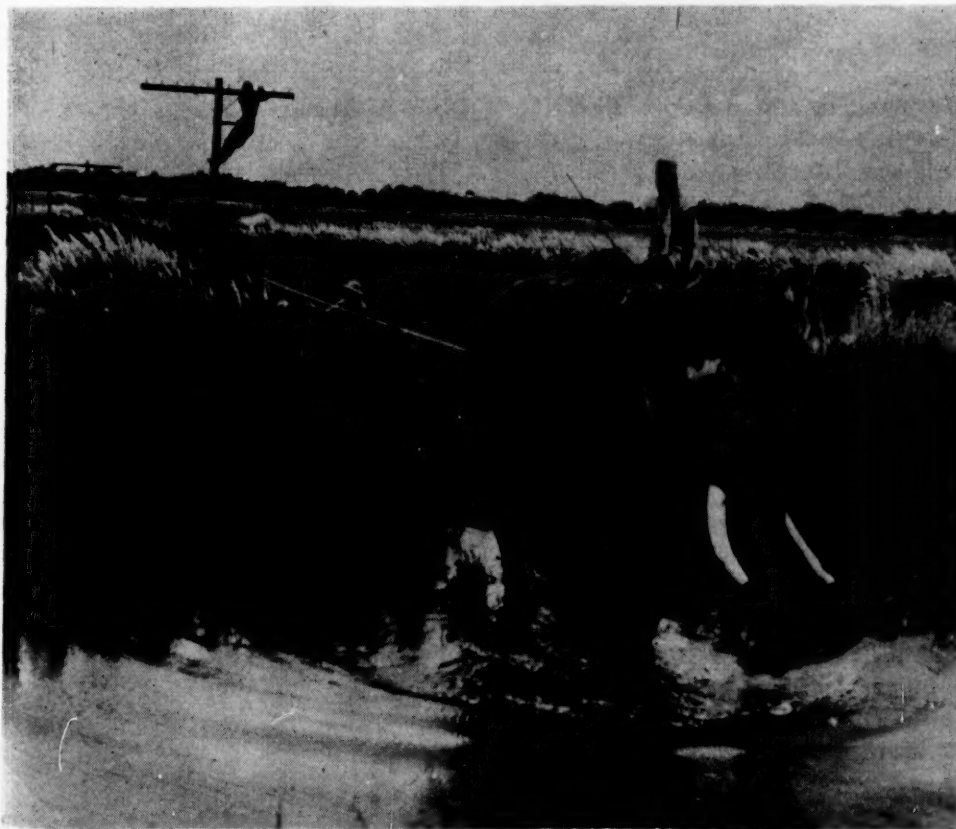
team, dogs individually loaded and not using a sled, can carry 35 pounds per dog at a rate of two miles per hour.<sup>11</sup>

## V. Summary

While the various forms of animal transport can never compete with motor vehicles in terms of pay load, overhead maintenance, personnel, or food versus fuel economy, yet, the following factors should be considered before their complete elimination, or the discontinuance of training personnel for their handling:

(1) Military operations may take place in roadless areas which are too mountainous, too sandy, too muddy, too forested, or too snowy for the economical use of motor vehicles.

### In India's marshes, signalmen used elephants to string wire



Wide World

French camel troops were a thorn in the side of Axis desert forces

(2) In some areas we may capture considerable quantities of local animals which can be put to efficient use without any of the prohibitory shipping and procurement problems associated with this form of transport.

(3) In combat with an enemy who has air superiority or even a substantial air capability, movement or supply by road may be severely limited.

(4) Regardless of our own use or non-use of animal transport we know that Russian, Siberian, and Chinese units have substantial amounts of pack transportation, as well as fully mounted cavalry units. It is incumbent on our operations and intelligence officers at all echelons to understand their capabilities in this particular.

US & MC

<sup>11</sup>Lecture *Sled Dogs and Mushing*, 24 Feb 51, Capt Howell, AAIS, Alaska.





Marines are picking up frontline supplies on the fly and putting seven-league boots on the approach march since they're using

# the transport helicopter

SEPTEMBER 1951 WAS THE BEGINNING OF A NEW ERA in the history of the Marine Corps. It was the culmination of six years of study, research, and planning by the crowned heads of Marine Corps Schools, in coordination with the best aeronautical and technical brains in the country. For September 1951 marked the first trial by fire of a new type of three-dimensional warfare which may supersede land warfare as we have known it for hundreds of years. And most important to the Marine Corps, it was the first trial in combat of a new technique which may well revolutionize amphibious doctrine. It is a three-dimensional warfare based not on the parachute, but rather on the transport helicopter.

Transport Helicopter Squadron 161, commanded by LtCol G. W. Herring, arrived in Korea on 2 September 1951, and was operationally attached to the 1st Mar Div on that date. Two days later the 1st Plat, C Co, 1st Shore Party Bn, commanded by 1stLt J. J. Fernane, was designated to support HMR-161, with the following functions in prospect:

1. To establish an emergency supply dump adjacent to the helicopter field capable of resupplying an infantry battalion.

By 1stLt William A. Reavis





2. To organize a loading party capable of administering the dump, loading cargo, and of controlling the aircraft at the loading point.

3. To organize a landing party, whose function would be to construct forward landing sites, unload cargo, control aircraft at the landing point, and load casualties for the return trip.

4. To study the problems inherent in the movement of troops by helicopter in combined movements of troops and cargo, and in night operations.

On 13 September 1951, the first combat mission was carried out by the squadron and its supporting shore party platoon. The 1st Marines, in the process of relieving the 7th Marines near Songnop-Yong, were hard-pressed for ammunition, flame throwers, water, and rations, and both regiments had sustained numerous casualties in the taking of objective Baker in the division sector. A request for emergency supplies was approved by division, and at 1600 the landing party arrived at the objective; a narrow ravine at the base of one of the peaks of objective Baker. The landing site was constructed in approximately 20 minutes, and in two hours

the squadron had delivered 16,000 pounds of emergency supplies 400 yards behind the continuing fire fight, evacuating 78 casualties on the return trips. It was the first helicopter logistical support mission in combat history.

On 20 September 1951, the squadron was directed to land the Div Recon Co (reinf) and 15,773 pounds of supplies on hill 884, near Kangok, in relief of the ROK regiment in that sector. The landing party disembarked via climbing ropes at the objective at 1030, and by 1115 the first site had been prepared with the aid of demolitions and hand tools. Troops began arriving immediately, and by 1145 a second landing site had been prepared. By 1303 the entire company had been air-landed, and at 1352 the total 15,773 pounds of supplies had been delivered to the peak of hill 884. It was the first large troop movement by helicopter in the history of warfare.

Between 13 and 30 September, the squadron and its supporting shore party platoon carried out 13 logistical support missions, moving 66 tons of emergency supplies to the front lines. It also completed three company troop lifts forward of the artillery line. Such is the record of the helicopter in its infancy in the support of

combat troops; subsequent years will prove its enduring worth to the Marine Corps.

It is necessary for all hands associated with helicopter support to know the peculiar flight characteristics of rotary-wing aircraft. Control of the 'copters from the ground, net and interior loading, construction of landing sites, and the constant flow of supplies and troops are all dependent upon a firm understanding of these principles. The cargo helicopter in use in Korea is the HRS-1, but the characteristics indicated here may be generally applied to all rotary-wing aircraft.

Contrary to popular belief, 'copters cannot land and take off in a vertical direction *with a full load* unless moving into at least a 20-knot wind (which will provide sufficient lift for vertical movement). Otherwise the 'copter must approach and take off much as a normal aircraft, requiring about 150 feet of cleared area both upwind and downwind of the landing site. If necessary, 'copters can approach out of the wind, but must round up into the wind (if 10 knots or greater) immediately before landing. Take-offs out of the wind are feasible only if about 100 yards of cleared run are provided, so that the 'copter can obtain lift by forward movement instead of by virtue of the wind. If negligible wind is present the craft can approach or take off from any direction, but suitable cleared approaches must be provided.

The helicopter hovers best when the wheels are about 10 feet off the ground. At this height an "air cushion" is developed as the rotor blades push the air to the

ground and back again, providing positive support. By the same reasoning, the air cushion will be negligible if the ground slopes abruptly downward beneath it. On the take-off the condition of a loaded helicopter is critical after it loses its ground cushion and before it attains the 20-knot speed necessary for translational lift. It must labor forward, gradually picking up speed, without gaining appreciable height.

Loads are carried by the helicopter in two ways: internally, and in nets slung underneath. The latter method allows quicker loading and unloading, but cuts down the payload because a crew chief must be carried to release the net at the landing point. Interior loads necessitate landing at both the dump and the front lines, while a net load can be picked up and dropped from a hovering position. There is no necessity for lashing interior loads, but the limited aperture of the hatch makes rapid unloading difficult. About 90 per cent of the September cargo lifts were net loads.

The maximum load each 'copter can carry depends on many factors, and is figured on a gross load basis. The maximum gross load for the HRS-1 at sea level is 7,300 pounds. At the elevation the division fought over during September, it was 6,600 pounds. The safe load capacity is computed as follows:

4,760 (Weight of helicopter)  
Weight of gas  
Weight of accessories carried  
Weight of passengers and their equipment  
Weight of cargo

Thus it can be seen that the maximum payload is determined by the height which the 'copter must fly (contained in the 6,600 figure), the amount of gas remaining, whether a copilot and crew chief are carried, and whether the 'copter has been stripped of all unneeded accessories. Cold, moist weather tends to increase the maximum gross load figure; helicopters realize their poorest lift on hot, dry days. The squadron operations officer determines the maximum safe load for each operation; in September it was generally about 1,000 pounds.

'Copters approaching for a net pickup or drop, or for a landing or take-off, require hand signals by a signalman of the support platoon. The signalman must stay far enough in front of the aircraft to be visible from the high cockpit at all times. Signals are made by sweeping arm movements so as to be readily noticeable. The signalman "picks up" approaching aircraft by facing into the wind and raising both arms above his head vertically; from then on the 'copter will approach, hover, descend, back up, or rise as directed by the signalman.

Internal loading is quite simple. The center of gravity is marked on the cabin floor, and weight must be distributed to balance on or forward of the center of

#### A thousand pounds of supplies for the front 12 miles away





gravity, and of course equally from side to side. Care must be taken not to load the cabin deck more than 200 pounds per square foot. The 'copter is impossible to handle if tail-heavy, but it can fly nose-heavy with little difficulty. So personnel must be told to sit as far forward in the cabin as space allows.

Care must be taken not to load nets too lightly. Light nets (half or third loads because of bulk) tend to spin and twist the support ropes to the breaking point. One load of empty stretchers and one load of empty nets were lost in this manner during September.

The emergency supply dump was planned to be capable of providing one-day's supply of ammunition, rations, and water for a reinforced infantry battalion, plus fortification materials, medical supplies, and a complete replacement set of battalion signal equipment. Arrangements were made to assure one-hour replenishment of all items issued.

A circular pattern was found to be the ideal arrangement for a helicopter dump (See figure 1). This facilitates control by the loading party commander and the rapid loading of 'copters. A hovering area is provided, as shown in the diagram, so that 'copters can approach into the wind for loading without having to cross the dump. Cargo is manhandled from the dump to the hovering area by the loading teams, one team being assigned to each helicopter. It is highly desirable that the area around half the circumference of the dump be cleared of obstructions in case the wind veers and the hovering area has to be moved.

Protection from the elements should be provided for signal and medical supplies as well as the rations. A wind sock is desirable in the dump area for the convenience of pilots in determining their approach direction.

The loading party is organized into a headquarters team, a dump team, and three loading-party teams. The chief functions of the loading party are to maintain the emergency supply dump, load the aircraft, control the aircraft at the loading point, record the departure of all aircraft and cargo from the loading point, and to maintain the proper level of supplies in the dump.

An operation is commenced upon receipt of a helicopter supply request from higher echelon, generally G-4. From the helicopter supply request, individual cargo tickets are drawn up for each load and transmitted to the dump chief. The loading party teams procure the indicated items from the dump, load the aircraft, and fill out the bottom portion of the cargo ticket after departure. The cargo ticket is then returned to the dump record keeper who makes the necessary debits on the stock record cards. Then the assistant dump record keeper utilizes the cargo ticket as a basis for an entry in the daily operations sheet. At the close of each day's activity, the helicopter operation report is completed and submitted to division G-4. This report includes supplies

and casualties carried by other (smaller) helicopters working the divisional sector in addition to the data on the HMR squadron.

The dump chief is in direct charge of all dump activ-

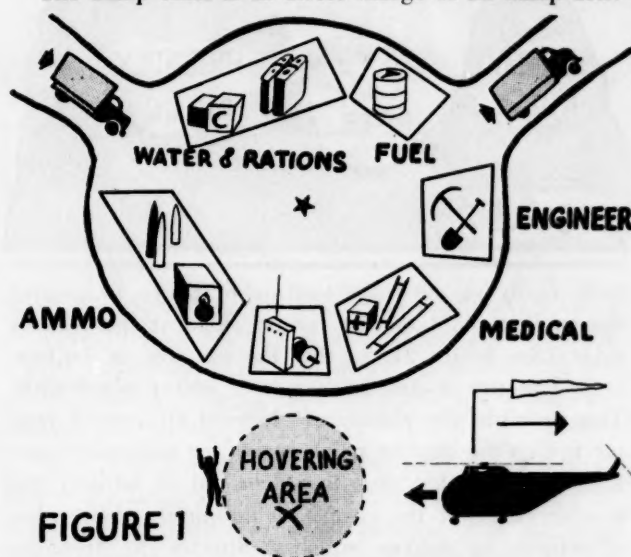


FIGURE 1

ities, and the individual dump section heads are under his immediate supervision. He will be in charge of all traffic within the dump, the reordering of supplies issued, the unloading of supplies from trucks, and the policing and maintenance of the dump area.

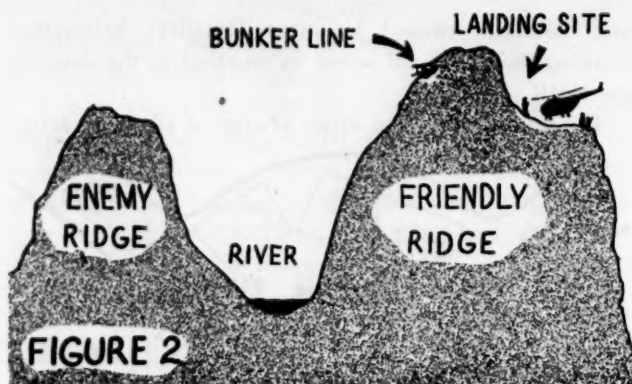
Each loading party team is an integral unit capable of loading one helicopter. Using the cargo ticket as a basis, the team leader will draw the appropriate supplies, have them and the net manhandled to the hovering area, load the net, direct the 'copter to the proper loading position, hook up the net, and wave the aircraft on its way. Three teams working in this manner can handle a helicopter squadron very effectively, even with short-haul distances.

One variation of the above procedure occurred frequently during September. Cargo was ordered to be transported from a forward battalion supply dump to the front lines, instead of from the helicopter dump itself. In this case, sufficient loading teams to handle the indicated cargo were transported to the new loading point, and only the operations sheet and the daily operations report were made out.

It is important that all organizations within a Marine division know the necessary characteristics of a helicopter landing site. Experience has shown that the construction of sites by infantry battalions within their sectors of operation greatly speeds up the problems of evacuation and supply.

Transport helicopters can carry emergency supplies or troops to the immediate zone of action, providing certain basic requirements are met:

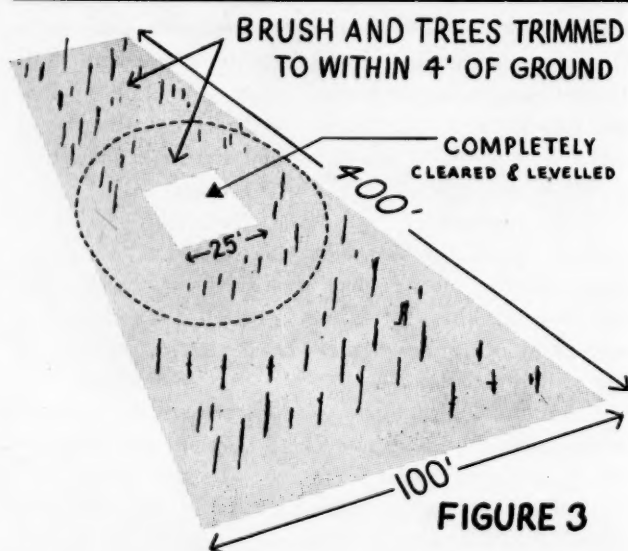
1. The landing site selected should be free from enemy flat-trajectory fire. This requirement has been met



quite easily in the ridge warfare of Korea by placing the landing point on the reverse slope of the friendly ridge (See figure 2), so that the site was in defilade.

2. *The site should be free from enemy observation.* This prohibits the placing of observed artillery or mortar fire on the landing point during the unloading operation. To say that sites should be out of artillery and mortar range of the enemy would nullify their prime objective: to deliver supplies directly to front-line troops. But the avoidance of *observed* fire will eliminate 90 per cent of the danger to aircraft. Several quick supply drops (notably the one to the very peak of hill 884) were made in full view of the enemy. But in this case speed and the desire to leave supplies at the highest possible point of the rugged terrain compensated for the additional hazard of an observed drop. It might be well to add that the accompanying and more protracted troop lift during that operation was made to a site in defilade from enemy observation.

3. *The site should be fairly level, completely cleared, and at least 25 x 25 feet.* The transport 'copter can land all four wheels on slopes up to 10 degrees, and slopes of that description are suitable without further earthwork. Slopes of 11 to 25 degrees can be landed upon temporarily by setting two side wheels against the upper



slope and hovering, but are unsuitable for lengthy landing. Such slopes can be leveled rapidly by the use of demolitions and hand tools, and are then suitable for landing areas. Slopes of greater than 25 degrees are impossible no matter how much earthwork is done because of the danger of hitting blade tips against the ground directly above the leveled area.

4. *At least a 100-foot circle about the site should be cleared to a height of four feet, and about 150 feet of approach and exit (in the direction of the prevailing wind) should be cleared to a height of four feet.* (See figure 3.) The 100-foot circle is to insure clearance for the 62-foot rotor blades, and the 150-foot approach in each direction to provide for contingencies of lift.

Winds generally blow parallel to ridge lines. If the site is to be located on the reverse slope of a ridge, the approach and exit will have to be cleared each way along the ridge (See figure 4). Winds blowing directly across saddles make ideal sites, because no clearing is required in either direction as the ground slopes off abruptly each way.

In ravines, draws, or small valleys, a landing site is relatively easy to find, and will generally require but token clearing. However, ideal landing sites on ridges or high ground are difficult to find and will generally require considerable work. Clearing trees takes more time than leveling ground, so an area which is relatively bare should be sought.

Speed in the construction of a landing site is generally the prime requisite. Therefore explosives are the main expedient used. C-3 charges connected by primacord have been found to provide the fastest means of leveling a site, especially when placed to force the earth in the direction of the low ground (See figure 5). The earth is then smoothed out by means of hand tools. Particular care should be taken to eliminate slight dips in the area of the landing site itself, which might allow the rear wheels to sink lower than the forward wheels and hazard the delicate tail rotor. A slight crown applied to the landing site will eliminate this difficulty.

Trees are handled best by the use of demolition charges inserted in notches cut one-fifth through the tree. Thus a charge of only one-third the external requirement may be used without the time-consuming internal method having to be utilized. Numerous tough, green saplings present a problem in the race for time, but a gas-powered chain saw should provide the solution. All stumps within the 25-foot square will naturally have to be blasted out completely.

Exits from landing sites should never slope upward. There is too much danger that the aircraft would crash with a load if it could not obtain the required additional lift. When the exit lies along the side of a steep ridge or down the slope of a hill there is relatively little danger of an accident through insufficient lift, as the aircraft

may always drop some to gain speed.

The landing party is an integrated pioneer unit capable of constructing advance landing sites, maintaining communication with aircraft and loading point, receiving 'copters and their cargo, and reloading casualties for the return trip. The size of the landing party is determined by the mission. If one or two landing sites must be constructed, or if many casualties are to be loaded, all four teams are taken. If the site has been constructed previously, generally only one team is needed to control aircraft, unload nets, etc.

For a complex operation, the landing point is organized as shown in figure 6. Net drops are made in the dump area so that cargo and nets can be kept off the landing site. Casualties are kept in an area adjacent to the landing site, but away from the route of entrance and exit of the 'copters. One landing team acts as the casualty handling group determining priorities for loading, the number which each 'copter can load (signalled by the plane captain when each 'copter lands), and carrying the stretchers to the aircraft. When aircraft are delivering net loads, they will be received in the net drop area and then picked up by another signalman on the landing site for the descent to pick up casualties.

Helicopter support missions are limited to the tonnage and content approved by division, and work on a strict time schedule. If a 'copter delivers a net load and there are no casualties in the immediate vicinity of the landing point, it will be directed to return to the loading point. Casualties farther away than a 30-second carry by stretcher cannot be waited upon, but will be picked up by the next 'copter in line. It is better to send some 'copters back empty than to jeopardize the split-second timing of the lift by having aircraft waiting on the ground. However, if the primary object of the mission is the evacuation of casualties, then the supply function must be considered secondary and such timetables need not be kept. It is the responsibility of the infantry to transport casualties to the landing point.

The dump established at the landing point is not one characterized by parade-ground precision, but an effort is made to place all like items together. A dump consisting of two parallel lines with the nets dropped between has been found to be the easiest to set up (See figure 7). With practice it is possible for the signalman to identify each net's contents as the aircraft approaches, and have the net dropped directly adjacent to similar items in the dump.

The forward dump must always be organized in haste because the helicopters carrying the last three loads will fly signal streamers, indicating that they are designated to pick up the landing party. One team loads in each plane as soon as it lands, reloading empty nets at the same time, and the mission is completed.

If possible, the landing party should be delivered



FIGURE 4

to the objective enough in advance of the first cargo drop to allow preparation of at least one landing site. It is almost impossible to do any work on the landing site while unloading cargo, and a half-hour's grace will improve the job 100 per cent.

There is no provision for security within the organization of the landing party, as all members are needed for work and are lightly armed. Therefore it is necessary that the infantry provide security for the party when a new site is being established in doubtful territory. And experience in Korea has indicated that all areas are doubtful to a greater or lesser extent.

Because of the "hit-and-run" nature of helicopter cargo drops, there is no opportunity for liaison between the landing party and the infantry. As a matter of fact, many times the landing team does not even know which company or battalion it is supporting; only the location of the delivery point and the items to be delivered. So the infantry must be ready to provide immediate security for the dump at the conclusion of the drop.

A signalman "picks up" a helicopter with a load of ammo





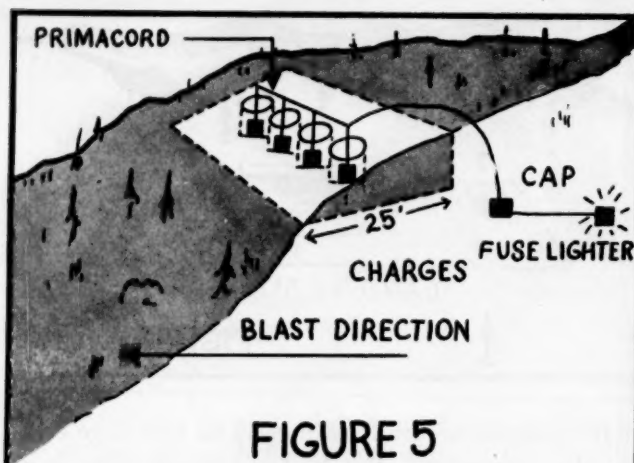


FIGURE 5



FIGURE 6

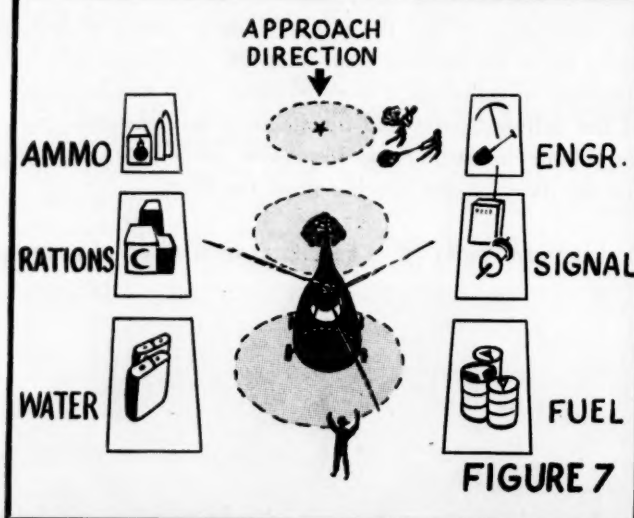


FIGURE 7

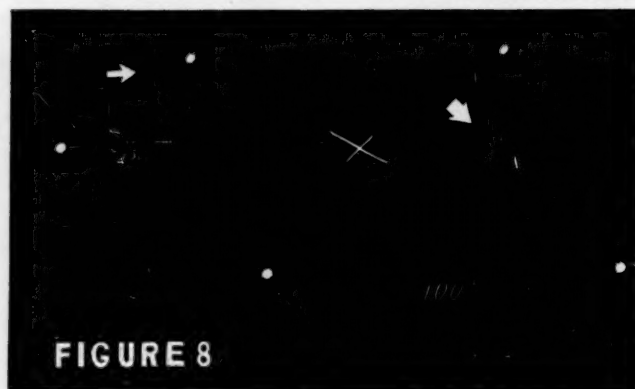


FIGURE 8

If two landing sites are utilized, they are generally connected by EE-8 telephones brought in by the landing party. Climbing-ropes of three-quarter inch manila, with knots at one foot intervals, are used for the initial descent in case trees or rough terrain in the area prohibit initial landing of the 'copters. Tools are dropped and all fragile gear is lowered by one-quarter inch lines.

As one lieutenant colonel said recently, "No intensive specialized training is required to indoctrinate Marines as helicopter-borne troops. In fact we use only two commands: 'Get in' and 'Get out.'" However, a few details regarding the technique might be mentioned here.

♣ TROOPS ARE ORGANIZED into helicopter teams prior to the lift in the same manner that boat teams are set up for amphibious operations. If there are six loading points, there will be six corresponding landing points, and helicopter teams must be made up with the tactical situation in mind as it will appear at the landing point. The major consideration in the formation of a helicopter team is not bulk, as it was in landing craft, but weight. The squadron operations officer will announce the maximum load which can be carried on that particular lift, and helicopter teams must be designed to fit the weight specifications. Care must be taken to add in all items of personal equipment, and individual and crew-served weapons. In a tactical lift it is best to move troops with bare combat equipment and bring in the packs, etc., later in nets. This will give the maximum troop lift in the minimum time.

Troops should be lined up by helicopter teams at each loading point, so the moment the aircraft touches the ground the helicopter team is off on the double and loaded properly. Troops should be schooled on the location and functioning of the emergency exit, and should have a prearranged order of debarkation—the man nearest the door first.

When the wheels touch the deck the first Marine should be out of the hatch, and the remainder should be taught to disembark in the same rapid manner as from an LCVP. Every second the 'copter remains on the ground is a second of vulnerability, and if the troops dally, they will be jeopardizing a very valuable flying machine.

After landing, at least a portion of the troops will generally form a defense perimeter around the landing fields until the completion of the movement. They should clear the site itself on the double.

Night operations by transport helicopter are ticklish, but have been proved practical in Korea. On 27 September 1951, a reinforced company of the 1st Marines was airlanded in the "Punchbowl" (Soktunji) area in two hours, using no lights except five red lanterns pointed southward to outline the field (See figure 8), and a pair

of electric wands for the signalman. The night in question was pitch black, with no moon.

**PARTICULARLY IN RUGGED TERRAIN**, the aircraft must be flown over the route to the objective during the day. Maps are often imperfect and on black nights the pilots have little more to guide them than their previous computations of distance, course, and speed.

Red and green lights are used at the landing point to indicate whether or not the field is clear for landing. If the red light shows, helicopters return to the pattern and wait for another pass at the field. Night landing sites should be increased to a minimum of 100 x 100 feet.

The transport helicopter squadron is, and always must be, under operational control of the Marine division. No troop or logistical movements are flown without express approval and under orders from division. The general procedure is approximately as follows:

1. Regt CO requests an emergency supply lift, stating supplies required, time of delivery, location of recommended landing point, and probable evacuation requirements.

2. G-4 verifies supply requirements and facilities in coordination with G-3, and makes recommendation to CG.

3. On approval, Div AirO notifies squadron of transport requirement, and G-4 notifies helicopter support platoon of cargo requirements.

4. Squadron initiates landing point reconnaissance (taking landing party commander as observer) to determine feasibility and method of landing cargo at the forward site.

5. Mission is executed as requested by regiment.

The transport helicopter has proven its worth in combat, and by virtue of its reliability and adaptability it has enabled Marine commanders to use the vertical envelopment with confidence. The techniques and methods that have been discussed here worked for us, and they are good. It remains for the Marine Corps, however, to keep on developing and improving this instrument of three-dimensional warfare.

US MC



From the rear dump to the front is a matter of minutes



Cargo drop completed, a 'copter comes in for a landing

Frontline replacements disembarked (foreground), a helicopter carries wounded Marines on its return trip



# Passing in Review

BOOKS OF INTEREST TO MARINE READERS

## In Defense of Custer . . .

LEGEND INTO HISTORY—Charles Kuhlman, Ph.D., Harrisburg, Pennsylvania: The Stackpole Co., 1951. \$5.00



Just about noon on 25 June 1876, the 7th U. S. Cavalry halted on the slopes of the low divide between the valleys of the Rosebud and the Little Big Horn rivers in Montana. There LtCol George A. Custer, in furtherance of his mission to locate and pin down the Indians reported to be assembling in unknown strength, split his command into three combat groups and a pack train.

The events of that evening and the following day have since become legend. Probably no other battle fought on American soil, except Gettysburg, continues to hold so much interest for military and civilian alike as the battle of the Little Big Horn and the subsequent annihilation of the 225 officers and men with Custer himself. Innumerable accounts—many of them lurid and irresponsible, some intended as whitewash, and most of them with some axe to grind—have appeared over the years.

Charles Kuhlman has taken a different approach—the detached one of the professional historian. Intrigued by the legend, he tried it out on the ground and found it full of paradox and impossibility. Dissatisfied, he turned to a painstaking reconstruction of the battle on a carefully blueprinted time and space background.

His was no quick effort to get into print. It took 16 years to read into the problem, study the Indian nations involved, examine and re-examine the ground, analyze every bit of evidence, and finally prepare his estimate of the situation.

Reduced to its simplest elements, the author's conclusion is that Custer was justified in splitting his force, and that the annihilation of the Custer battalion was the result

of poor communications, misunderstood orders, mistaken conclusions in estimates of the situation made by the other battalion commanders, and brilliant use of the terrain and numerical superiority on the part of the Indians.

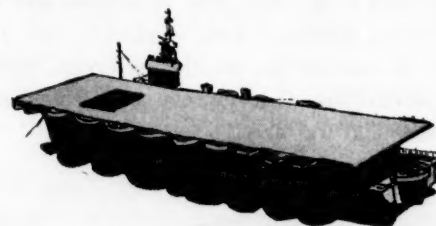
How Dr. Kuhlman arrives at these conclusions is interesting and well worth reading, but rather hard going. He presupposes, apparently, certain familiarity with the event and the circumstances leading up to it, but this is not seriously defective. The story is adequately developed for the persevering reader. And one must persevere. Dr. Kuhlman is not skilled enough with his pen to draw the reader on with seemingly effortless exposition of the story; he labors. But where his writing skill falls short, the fascination of his subject matter and the deductive reasoning he applies to it come to the rescue.

The maps, with phases of the engagement plotted on them, are adequate but barely so. The few photographs supplied are so poor as to be worthless. Here a professional photographer could have been employed to good effect.

Reviewed by Capt J. M. Jefferson, Jr.

## A Skipper and His Ship . . .

CLEAR THE DECKS—RAdm Daniel V. Gallery, USN. 242 pages. William Morrow and Co. \$3.50



As the author puts it, "Serious students of military strategy who have digested the reports of Eisenhower, Halsey, and 'Howlin' Mad' Smith can afford to skip this yarn." However, the reader who likes sea stories mixed with philosophy filled in around a framework of action will find this chronicle lively reading.

Here is the story of a skipper and his ship. The skipper was Capt Gallery and the ship the *USS Guadalcanal*. From launching to mothballing, the author relates all the things that made the *Guadalcanal* live up to her motto "Can Do."

The *Guadalcanal* was one of the 50 baby flattops spewn



forth from the Kaiser shipyards in Vancouver, Washington. She was a prefabricated ship with a prefabricated crew. The majority of the men who manned her were fresh out of boot camp, their only experience six weeks in pre-commissioning school in Bremerton. These men plus a sprinkling of "salts" returned from the carriers sunk in the early battles of the Pacific made up her crew. Some of the old hands wondered about these farmers turned sailor and, as one chief boatswain's mate put it, "Cap'n, I'd swap 'em all for a bucket of oily rags." But in spite of their lack of experience, the newborn plankholders went out and made new records. After teaming up with an air group, they sank four German submarines in six months and helped capture the first enemy man-of-war in battle on the high seas since 1815.

This latter event occurred on June 4, 1944, when the German submarine U-505 was captured by a boarding party from the *Guadalcanal* and the destroyers *Chatelain*, *Pillsbury*, and *Jenks*. The U-505 had been forced to surface by depth charges from the destroyers. As her crew attempted to scuttle her and abandon ship, all ships in the task group let go with their small-caliber weapons. As these weapons gave forth the sound and the fury without doing material damage, the hull of the sub went unharmed. Meanwhile, whaleboats approached and the crew boarded her as the ships ceased firing. The boarders went below, closed all open valves, and took possession of the sub complete with code books, acoustic torpedoes, and countless other intelligence prizes. For this action, a Congressional Medal of Honor and two Navy Crosses were subsequently awarded to members of the boarding party.

Supporting the action of the book while acting as a contrast to it are the author's philosophy and humor. Adm Gallery's conclusion that the world is run by force because man will not love his fellowmen is timely now even as it has been since the beginning of the world. Yet, countering any harshness of philosophy is the manner in which he brings out the human side of the war with people he knew, the things they did, and the stories they told. The result is a book that has an interesting story, humorous sidelights, and thought content too.

Reviewed by 1stLt John E. Madden

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
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